INDIA RUBBER WORLD
CAOUTCHOUC GUTTA-PERCHA

Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

120-122 LIBERTY ST. NEW YORK, U. S. A.
LONDON OFFICE, 225 STRAND, W. C.

JNO. R. DUNLAP. H. C. PEARSON.

Vol. 21. MARCH 1, 1900. No. 6.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES.—Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at New York Post Office as mail matter of the second-class.

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QUALITY AND COST OF PRODUCTION.

CERTAIN criticisms of the American rubber trade, derived from a German source and printed on another page for the interest of whom it may concern, doubtless reflect the sentiments of a wider circle in that country than the gentlemen who compose the *Gummi-Zeitung* staff. Some things are charged therein which cannot be commended in trade in any country, but if the cap does not fit any particular manufacturer, he need not put it on. But with regard to one point in our contemporary's comments, it may be possible for the same mistake to be made in Germany that has been made in Great Britain in respect to Germany. The English rubber manufacturer's explanation of the growing competition in his own country from Continental firms is that the imported goods are poor, on the theory that cheaper production than in England, quality for quality, is impossible. The same position with regard to Germany and America is implied in the *Gummi-Zeitung*, particularly by its reference to "costly manufacturing conditions" in the latter country.

Wages of rubber workers are higher in the United States than elsewhere, but wages do not cover the whole ground. In the 167 rubber factories to which the Eleventh Census related, the combined cost of wages is given at just 25 per cent. of the total expenditure in production. As for materials consumed, crude rubber costs no more in America than in Europe; indeed, there are people abroad who insist that the Americans buy more closely. Of other materials, domestic cotton is used, domestic compounding ingredients to a large extent, and domestic coal. If it be true that the labor involved in the preparation of some of these materials for use in the rubber factory requires to be paid more than in Europe, it is to be said of such wages—and the same thing applies to rubber workers—that they are high solely because they buy large productive capacity; *i. e.*, the wage earner's daily output is larger.

It is because of the high standard of wages that American rubber companies tear down buildings and rear new ones better adapted to their needs; that they discard machinery not half worn out for new types of higher efficiency; that they remove from locations no longer favorable to new ones that are; that they encourage liberally the invention of labor saving devices or processes. Underlying the whole current of American industrial progress is the idea of increasing the production of the wage earner. If one employé in time becomes able to do the work which formerly required three, his wages may be doubled, and yet the cost of manufacture be reduced. It is this tendency which has steadily lowered the cost of nearly every article of manufacture in America. Nor has the number of men employed been lessened. The consumption of rubber and other goods has gone on apace, partly because the lower costs resulting from inventive skill have put them within the reach of more people, and thus led to a larger demand and the employment of more workers.

In addition to these considerations, the very large scale on which many goods are produced in America—founded primarily on the home consuming demand of 75,000,000

people—has made possible lower units of costs than otherwise could exist. Whatever may be the merits of different business methods, high wages need no longer mean costly production, and the manufacturers of any country will make a mistake in underrating foreign goods for the sole reason that they appear low in cost. The true test is that of quality, and THE INDIA RUBBER WORLD stands for the maintenance of honest standards of rubber manufacture, in whatever country.

THE PACIFIC CABLE AND RUBBER PRICES.

THE question of a Pacific cable is likely to continue to be agitated until means of direct communication between America and the Orient are established. The need for such a cable may seem to many minds less pressing for the reason that Europe, more largely interested than the United States in the trade of the Far East to-day, already has direct telegraphic connections in that quarter, and also that the United States can, in a measure, be served by existing cables. But the development of trans-Pacific commerce in prospect appeals not only to the United States but to other countries in America, including important British possessions, and the project of a cable across this ocean will not down.

Such an undertaking at this time would be less stupendous than was the spanning of the Atlantic with a submarine wire forty years ago, when the practicability of ocean telegraphy had not been demonstrated, and when large amounts of capital were less available than now. A Pacific cable may as well be admitted to be a certainty, therefore, the questions of choice of route, who shall build the first line, and how the opposition of existing Eastern cable companies is to be met all being details capable of adjustment. The cost is likely to prove greater than the estimates thus far would indicate, largely for the reason that a single cable will not be enough. The history of existing lines, if made public, would show a greater amount of interrupted communication and a greater expense for cable repairs than the world has been aware of, and prove the necessity for more than one Pacific cable from the beginning.

The subject is one of no small moment to the India-rubber trade. If it should be decided to use rubber insulation for the new cables, the price of this commodity could not fail to be further advanced. Or, if Gutta-percha should be used for the Pacific lines, the supplies of this gum would be so largely drawn upon as to leave none for the shorter submarine cables that are being called for all over the world, and India-rubber would have to be used for these. In any event India rubber prices are bound to be affected; they are already much higher than they might be to-day but for the growing use of rubber in insulation apart from submarine work.

By the way, time may justify the suggestion of the United States consul at Pará—Mr. Kenneday—who, in a recent report to Washington on the activity of European capitalists in gaining control of the Amazonian rubber lands, writes that "after awhile persons who have not foreseen the necessity of securing the raw material may find themselves at the mercy of the owners of the rubber fields."

THE RUBBER SHOE JOBBERS are to be congratulated upon having taken a stand against price cutting before the growth of the practice to such an extent as to render profits impossible. There never was any sound reason why rubber boots and shoes should be sold for less than a fair profit, particularly since they are necessary to the comfort of so many millions of people able to pay for such goods what they are worth. Price cutting on rubber footwear has not, as in the case of some other kinds of merchandise, enabled stocks to be disposed of which otherwise might have been unsaleable. It has never augmented the total consumption. There have been dealers who, hoping that their offer of special prices might remain a secret, have attempted by this means to gain a larger share of trade than seemed possible in competition on open terms, but the ultimate effect has been as injurious to themselves as to competing dealers. So long as efforts to check such methods were confined to the rubber manufacturers little was accomplished, for the reason that contracts to maintain prices are not easy of legal enforcement. But now that the price cutters themselves have organized to stop the practice, such results are in prospect as are likely not only to commit the rubber shoe trade permanently to the new policy, but also to commend it to other branches of the rubber business.

RUBBER CONSUMERS SEEM LESS DISPOSED than formerly to attribute the high prices of the raw material to speculative tactics on the part of importers and merchants. All trading is speculation, and the merchant who invests capital to be employed at such long range as is the case in collecting rubber in the wilds of the Amazon and Congo valleys, must sometimes manage to pocket a good profit in order to offset the losses which are inevitable now and then. But the upward tendency in rubber prices has been almost constant since the middle of 1895, and no such steady advance could have been maintained so long by artificial means. It is safe to assert that all the rubber in the world is not under a single control. Hence, even if there should be an agreement among rubber handlers, some one would be certain, now and then, to undersell the others and thus "break the market." The fact that crude rubber prices at any given date are so nearly the same in every center of the trade is evidence that the margin of profit on the commodity is not extravagant. The advance in prices of rubber goods now in evidence on both sides of the Atlantic is evidence that manufacturers are taking the prudent position of adapting their estimates to the actual cost of raw material, and not what it ought to cost. For the manufacturer to pursue any other course would be speculation on his part. Manufactured articles ought to sell for more when the materials cost more; it will be easy enough to reduce selling prices when crude rubber can be bought for less money.

IT IS THE DUTY OF STATESMEN, so far as may lie in their power, to promote such general conditions as make for industrial and commercial growth. But it is not the part of a good business man to depend upon his government to provide or discover markets for his wares. All the laws that can be passed by the United States congress in a year will not, alone, carry one sample of American industrial products across the seas, or interest a single foreigner in becoming a purchaser of such goods. This is work for manufacturers and merchants and their agents to do for themselves.

THE ENGLISH RUBBER ASSOCIATION.

AT the general meeting of the India-Rubber Manufacturers' Association of Great Britain, held on January 11, the election of officers for the second year of the association, ending December 31, 1900, resulted as follows:

Chairman—H. G. Tippet (Liverpool Rubber Co. Limited.)

Vice Chairman—David Moseley (David Moseley & Sons.)

General Committee—R. E. Baxter (The Leyland and Birmingham Rubber Co.), R. Eccles (The Castle Rubber Co., Limited), F. W. Ingram (I. G. Ingram & Son), P. H. Lockhart (W. & A. Bates), R. K. Birley (Charles Macintosh & Co., Limited), F. Pegler (The Northern Rubber Co.), J. Robinson (Broadhurst & Co.), J. Tinto (Irwell Rubber Co.)

Treasurer—David Moseley.

Secretary—F. B. Knott, 2, Cooper street, Manchester.

The first annual report, presented at the meeting, indicated that success had been attained in carrying out the purposes for which the association was formed. Reference is made to the efforts made during the year to secure uniformity in the price lists of the various concerns, for hose, tubing, and belting, mentioned at length in THE INDIA RUBBER WORLD of December 1 last. The general committee state:

> The lists are now before the trade, and from what we can learn it is confidently trusted that the general benefit derived from the original arrangement as to prices has been considerably augmented and solidified.

The committee have called the attention of merchants and brokers to the prevalence of foreign matters in consignments of raw rubber, in response to which many promises of coöperation from merchants have been received. The committee have already had placed in their hands a copy of a circular issued in Pará, in the Portuguese language, calling the attention of dealers up the Amazon to the matter. The committee have given their attention also to the subject of guarantees on waterproof goods, and to a new understanding with railways in regard to certain consignment agreements.

The membership consists of—

Achnach & Co.	Glasgow.
The Ancoats Vale Rubber Co., Limited	Manchester.
The Avon India Rubber Co., Limited	Melksham.
W. & A. Bates	Leicester.
Broadhurst & Co.	Bradford.
The Castle Rubber Co., Limited	Warrington.
The Clyde Rubber Works Co., Limited	Glasgow.
P. B. Cow & Co.	London.
The Dermatine Co.	London.
I. Frankenberg	Salford.
J. E. Hopkinson & Co., Limited	West Drayton.
J. G. Ingram & Son	London.
The Irwell Rubber Co., Limited	Salford.
Leyland and Birmingham Rubber Co., Limited	Leyland.
The Liverpool India Rubber Co., Limited	Liverpool.
Charles Macintosh & Co., Limited	Manchester.
David Moseley & Sons	Manchester.
The Northern Rubber Co	Retford.

The association differs from that existing in the mechanical rubber trade in the United States in that a salaried secretary is employed, not necessarily a member of the trade, whose office is the center of the operations of the association.

THE latest proposal in the field of rubber substitutes is that a by-product of the manufacture of cellulose by the Marsden process be used as a basis. This is another method of obtaining corn oil, which has already been utilized by several concerns in the production of a rubber substitute, as the pith of cornstalks is the raw material of the Marsden process.

A GERMAN VIEW OF AMERICAN METHODS.

[FROM THE "GUMMI-ZEITUNG."]

GERMAN dealers in mechanical rubber goods have received of late American propositions, evidently intended, from the low prices quoted, to encourage purchases direct from the factories in America. It is hardly necessary to tell the German dealer how to treat such offers. The practice of the Yankee gentlemen in sending abroad their shoddy goods, such as they cannot sell in their own country, has become too well known for any one to be caught by it now. We may only call attention to American bicycles, on which numerous German dealers dropped their hard earned money, and the worst part of those wheels were the rubber tires. Of what quality must these rubber goods be which America, with her high manufacturing costs, can sell cheaper than our own efficient home factories? Therefore, into the waste basket with such propositions! Any one who acts upon them buys a cat in a bag. Reputable foreign houses who want to trade in Germany generally give their representation to our domestic dealers, who guarantee the goods. The prices of these domestic dealers, of course, will not excel through special cheapness.

But special attention should be called to the contempt shown by these American firms in their direct offers to German dealers. A letter, a single square sheet covered with illegible writing in poor German, without a heading or preamble, no cuts, no samples, no statements as to quality, no references, etc., is considered sufficient to start new business connections. On what low level of business education do these firms consider our domestic dealers to stand? It is a well founded law of simple politeness to wear a decent coat when one makes a first call. Indeed, across the ocean they must consider us Germans very far behind, if they think to do business with us on such a basis, and thereby to compete with our own home industries.

RUBBER EXPORTS FROM MOLLENDO.

THE rubber resources of Bolivia were treated at length by Sir Martin Conway in a paper read lately before the Society of Arts (London), and particularly of the region at the head of the river Beni, the products of which are carried across Lake Titicaca and thence by rail to Mollendo, on the Pacific coast. The rubber exports from Mollendo (in pounds) have been:

1893-94.	1894-95.	1895-96.	1896-97.	1897-98.
37,587.	80,734.	251,341.	292,121.	491,087.

Sir Martin had been assured that the output for 1898-99 was very much larger, and the industry is still growing. The books of various forest owners showed the cost of putting 100 pounds of rubber in London to vary from $110.10 to $112 (Bolivian money). Reckoning the Bolivian dollar at 18*d.*, the cost of Mollendo rubber put in London would be 19.82*d.* to 20.16*d.* per pound. The amount paid to the contractors in the forest accounts for 13.14*d* of this cost. Recent quotations in London for Mollendo rubber were: Fine, 4*s.* 6¼*d.*; medium, 4*s.* 5¼*d.*; negroheads, 3*s.* 6½*d.*, per pound.

THE climate of Denmark has changed completely during the past few years. Cold winters are now rare; the winter of 1897-98 was so mild that it was found necessary to import large quantities of ice. On the other hand, the weather is very rainy and damp and everyone wears rubber shoes, which are brought in from Russia and Sweden. The Danish foot is large; the most required sizes are from 6 to 9 for women, and from 9 to 13 for men.—*Le Franc Parleur.*

THE INDIA-RUBBER INDUSTRY IN EUROPE.

From the Viewpoint of an American.

FOURTH LETTER.

The Center of British Rubber Interests—Rubber Auctions in London—The Colonial Trade—German Rubber Branch Houses—Representatives of American Rubber Firms—The Druggists' Sundries Trade—Great Britain as a Market for Foreign Rubber Goods.

LONDON sustains a relation to the British industry analogous to that of New York to the rubber trade in "the States." That is to say, there are important rubber manufactories in or near the city; those further away have depôts and often branch offices here; and it is the leading center of the export trade in rubber goods. Besides, here is still an important crude rubber market, though the imports do not equal those of Liverpool. There is another feature of the rubber goods trade in London with which no American city has anything to compare—the branches or selling agencies of foreign firms. This English metropolis is a financial and commercial center of commanding importance in so many other respects that one naturally looks here for the headquarters of large rubber interests.

* * *

EVERY Friday, at noon, there is an auction sale of crude rubber, not in a central salesroom, as at Liverpool, but taking in rotation, week by week, the offices of the rubber brokers grouped in and about Mincing lane. It was only natural that, when the shipping of Great Britain began to take a clear lead, the merchandise of most nations should pass through the port of London, and the gathering of buyers here from many parts of the world led to the practice of offering commodities of nearly every kind—especially raw products—at auction. Instead of employing one general auctioneer, every broker or firm of brokers offers his or its own principal's rubber. The number of catalogues, one for each broker offering, is half a dozen or more, and the duration of the auctions is an hour or two, the intending bidders having first inspected samples at the respective brokers' offices, or stocks in warehouses. The offerings here also include rubber lying in Liverpool. At a sale I attended the first two brokers on the list offered 169 lots, embracing 956 packages, received at English ports by 34 ships, from New York, Lamu, Pará, Zanzibar, Hamburg, Penang, and other points on every continent on which rubber grows. The bidders must needs keep a great amount of detail in mind, since the catalogues contain no description of the various lots, and a London auction sale is a serious function, where one scarcely dares whisper.

* * *

THE representatives of foreign rubber manufacturers, while active in seeking British orders, are here none the less to share in the export trade of which London is so conspicuous a center. The foreign and colonial orders from merchant shippers received in London in the course of a year include many requirements in rubber goods, and the foreign branch houses here compete with British manufacturers for what are known as "open indent" orders. So far as trade with the British colonies is concerned, taking into account the direct shipping connections with London, and the natural tendency of colonists to forward orders to their mother country, the German or American manufacturer who is represented here is in a better position to secure customers than if operating from any other center.

The German rubber manufacturers have been foremost among foreigners in appreciating the opportunities afforded by London for extending their trade, and several of them are represented here in a large way. For example, the United India Rubber Co., of Berlin and Frankfort, have had a London branch house since 1894. Mr. G. Poppe, the present manager, studied English and French at school, "theoretically" as he expresses it, but gaining a very practical knowledge of these languages in traveling for his firm in France, Belgium, and England. He also had the advantage of four years' experience in the firm's factories before being placed in charge of the business in London. Associated with him is Mr. Leach, with twenty-three years' experience in the factory and in selling goods. It is not too much to say that these gentlemen possess a very thorough knowledge of the trade with which they have to deal. That the volume of their business reaches good proportions is suggested by Mr. Leach's statement to me that, when the United India Rubber Co. were paying more attention to balls than now, he sold in a single year to the English trade $250,000 worth of these goods alone, in competition with three or four important concerns.

I asked Mr. Paul Brodtmann, manager of the London branch of the Continental Caoutchouc and Gutta-percha Co., of Hanover, whether the business he was doing was due to any ability of German manufacturers to produce goods at a lower cost, quality for quality, than the English. He expressed the opinion that this was not true to any important extent, and led me to infer that, with a wide field for trade, energy and perseverance and thoroughness could be counted upon to secure business without resort to price cutting. By the way, while I have written in former letters of the monopoly of the tire manufacture in England under the patents controlled by the Dunlop company, I find that the Continental company are selling tires here. "We are not in a position to export our own 'Continental' motor tire into England, on account of the Bartlett patent," said Mr. Brodtmann. "But we are makers of the 'Clipper' motor tire, which is now largely in use here. The firm for whom we manufacture it is The Clipper Pneumatic Tyre Co., Limited, one of the largest of the kind in England." The Clipper company operate under a license from the owners of the Bartlett patent, and reported last year a profit of $79,360, on a capitalization of $650,000.

The Harburg-Vienna company also are doing business in England, including the sale of rubber footwear, in competition with home manufacturers. They have been particularly successful in selling what Americans call "tennis goods." And I may note here that I have heard more inquiries in Europe for new lines of tennis shoes than for anything else connected with the rubber trade.

* * *

THE United States Rubber Co., with a view to extending their export trade, have established a European depot in London, in charge of Mr. John L. Knott, who was, before the consolidation, sales agent here for the Boston Rubber Shoe Co. Mr. Knott I found enthusiastic about the possibilities of the new departure, and had under consideration much larger contracts for the continental trade than were ever made before in the same lines. I also met Mr. John Rye, of John Rye & Co., a shoe firm who have long handled American rubber boots and shoes, and who think the trade capable of large growth. As

for mechanical goods, Mr. John L. Sardy, who has a knowledge gained by personal experience of colonial trade, represents here the Revere Rubber Co., of Boston. Mr. R. M. Howison, whom I have referred to in a former letter in connection with the Single Tube Tires, Limited, of which he is manager, has been organizing here the European headquarters for The B. F. Goodrich Co., manufacturers of mechanical rubber goods at Akron, Ohio. The Riverside Rubber Co., of Belleville, New Jersey, have placed their English agency for druggists' sundries with Lewis & Burrows, Limited, pharmacists in New Oxford street. This, I believe, about completes the list of direct representatives of American rubber firms in London, though a considerable quantity of American goods reaches this market through various other channels.

* * *

THE Gormully & Jeffery Manufacturing Co., of Chicago, have maintained a branch in London, managed by Mr. W. H. Kitto, for the sale of their "Rambler" cycles and "G. & J." tires. The company having gone into the American bicycle trust, however, and their tire business having been sold and floated as a separate company in America, it is not certain how the tire business which Mr. Kitto has built up here will be continued. It has been handicapped by litigation due to conflicting claims of the "G. & J." patents, and the Bartlett, or "Clincher" patent, the result of which thus far has been unfavorable to the American interest.

At one of the hotels I met Mr. F. Hirsch, of Vienna, who, with other members of his family, is interested in the shoe industry in that city, and also in the "Provodnik," or Franco-Russian rubber factory, at Riga, Russia. The Riga rubber shoes are sold largely on the Continent, and Mr. Hirsch was considering their introduction into Great Britain. He did not think it worth while to try the United States as a field, at least for the present.

* * *

IN contrast with the liberal space devoted by American shoe trade journals to rubber footwear, I may mention that a leading English journal in this line recently brought out a large special edition, without one mention of a rubber shoe in its 164 broad pages. Shoe shops are no longer unusual in London, but such of them as exhibit rubbers in their windows do so sparingly. No doubt they could be induced to make such goods more prominent, however, with the result of increasing the demand.

* * *

IN a chemist's shop in which some American rubber druggists' sundries were exposed I asked how they sold. "They do not sell very readily," was the reply. "If prices are the same, our customers naturally take British goods. If the prices are less, the quality is apt to be inferior. Some people take fancy water bottles and the like because they are more attractive than some of our own goods, but no pains has been taken to imitate the shapes which the English are accustomed to, and this makes a difference in favor of the domestic article. Some of the American goods we sell are guaranteed; it is not necessary to guarantee British goods, because the buyer knows what he is getting. At certain seasons a good many Americans visit our shop, and they buy the American goods." It occurred to me, on leaving the shop, that if the proprietor had been more largely interested in the goods under discussion, instead of their being a small "side issue" with him, he might have been able to talk differently.

* * *

IN another shop—one of twelve under a single control—the manager said that their purchasing depot was visited constantly by salesmen for American and Continental rubber goods, but that they bought mainly from English manufacturers whose goods had an established reputation. "It does not matter to us who makes goods or where they are made, so long as they satisfy our customers and we can make money on them, but up to date imported goods have not proved so satisfactory as what are made at home. We do, however, add to our stock now and then a foreign line where there have been several calls for it. Here is an American fountain syringe of which we have sold about a hundred in a year, mostly to Americans. French people drop in here, or Germans, asking for goods that they are accustomed to at home, and we then begin to keep them. Yes, it pays us to handle rubber sundries; whenever the line ceases to be profitable, we shall drop it. Our twelve stores sell about £5000 worth of rubber goods in a year."

In several drugstore windows I saw atomizers and other goods labeled "Ellis & Goltermann, New York," sundries from the Akron Rubber Works, and rubber plasters made by J. Ellwood Lee, in America.

* * *

THOSE manufacturers elsewhere who may contemplate competing in the British rubber market may do well to consider that a more important percentage of the total demand comes from the trade in waterproof goods than is true in any other country. Foreign competition in this line is especially difficult, owing to the favorable position of the British in the production of textile goods. I have already mentioned the conditions which handicap the sale of foreign tires in this country. Another condition, of special interest to Americans, who are in position to export largely all classes of rubber footwear, is that the demand for goods of this class is as yet quite limited as compared with the United States or continental Europe. We come next to railway requirements in rubber, which are very large, but are not purchased in the open market. They are, on the contrary, bought under yearly contracts, under conditions which render the introduction of foreign goods a matter of slow growth. The same is true to an even gerater extent of war and admiralty contracts. Then the important branch of rubber production embraced in the class of molded specialties is confined naturally to those concerns who have in hand to-day the various molds and dies required in making these goods. Each customer may be expected to continue to give his orders to the works where the molds are held which are used in producing the special articles which he requires. There yet remain the articles of belting, hose, packing, gaskets, valves, solid tires, and druggists' and stationers' goods, for which there is an open market. While naturally the tendency of buyers will be in favor of home manufactures which have established a reputation, while foreign goods must stand the test of time before they can become known favorably, I have given facts above showing that foreign goods are sold already in Great Britain, despite the care which the home manufacturers have taken to study the particular requirements of the home trade, and the advantage which they have in respect to knowing to whom and to what degree to extend credits. But whatever hope may exist with regard to finding a market here for foreign products in rubber does not extend to the foreign manufacturer being able to send over his surplus output in bulk, whenever there may be a temporary lull in the demand at his home. The only methods worth trying are those of such foreign firms as I have named above, who come here prepared to stay, and who have the patience to build up a trade slowly, if needs be to make their position in the new market sure and lasting.

H. H.

INDIA-RUBBER IN INSULATION WORK.

THE subject of insulation for electrical conductors may be said to be the most important branch in electrical engineering to-day. In considering this subject one must bear in mind that, no matter how much capital has been invested in an electrical installation, whether for power, lighting, or the transmission of intelligence, if the dielectric is faulty, the energy wished to be transmitted is lost. Among the many types of insulation devised since the conception of this industry, only three forms are now used, namely, gum (India-rubber and Gutta-percha), fiber, and paper. It will be necessary, in order to fully appreciate the immense industry arising from each of these forms, to consider them separately.

India-rubber has been known and used in this science from the beginning. In the first attempt to send electric signals under water, in 1811, a wire covered with India-rubber was used, and the explosion of mines at a distance by an electric spark transmitted over a similarly insulated wire was accomplished at St. Petersburg in the following year. From this early beginning to the successful transmission of Niagara's energy to Buffalo to-day (at a pressure of 30,000 volts) is an immense stride, and one that has been accomplished only by an enormous amount of engineering ability.

The conductor of 1811 was insulated by drawing the wire through a soluble solution and leaving an uneven coating of rubber about $\frac{1}{32}$ inch in thickness, while the present Niagara conductor is insulated with a covering of vulcanized rubber $\frac{9}{32}$ inch in thickness, forced around the wire in a perfectly smooth and seamless manner at a pressure of ten tons. The vulcanization of rubber, as discovered in America by Goodyear, and first applied in this form as an insulator by William Hooper, in England, was one of the greatest aids to this industry. India-rubber insulation is applied to the wire in two forms. Under the older method the first step is to roll the rubber compound into sheets of the required thickness, which are then cut into strips of the desired width. Two of the strips are next applied to the wire by running them through grooved wheels which force the rubber together on each side, the wire being guided in the center. A serving of tape or braid is then applied, and the conductor put into the vulcanizer, where the heat makes a union of the seams.

A later, and undoubtedly a better method, is known as the seamless process, whereby the compound is forced by a screw machine around the wire spirally in a perfectly smooth and seamless manner, after which it is vulcanized in the usual way. There is a larger amount of rubber insulation used to-day than any other form, for the reason that the engineers have found that its electrical resistance and waterproof qualities, combined with its elasticity, make it the ideal dielectric. While its cost is three times greater than the cost of fiber or paper, its factor of safety is over 100 fold. Two deep sea cables insulated in this manner, made recently for the United States government, have given perfect success.

Viewing the subject of insulation internationally, India-rubber insulation is naturally American, while the use of Gutta-percha is English. India-rubber being a compound shows decidedly an inventive (and therefore an American) product, while Gutta-percha is applied in its pure state without mixtures, thus naturally appealing to a more conservative nationality.

Fibrous insulations are of that class composed of either cotton or jute, the covering being applied to the wire in several consecutive braids, or wrapped around the conductor spirally. A coating of hot bituminous compound is then applied as a filler, thus making it semi waterproof. Insulations of this character were once largely used in the United States for electric lighting purposes, but the serious loss of life and the fires caused by it have relegated its use to out of town purposes—for low tension work and for pole line and overhead construction.

Paper insulations are applied by wrapping strips of this material about the conductor in consecutive layers, until the required thickness is reached, and then saturating the covering with insulating oils. For telephone work, where the electrostatic capacity of the conductor governs its working length, a single layer of paper is wrapped on the conductor in a loose tubular form, thus leaving an air space. This has been found to fill specifications that would be hard to meet with other forms of insulation. It will readily be seen that either fiber or paper insulations, if exposed to moisture, will lose their properties; therefore, when used for submarine or subterranean work, they are protected by a lead sheathing upon which the cable must rely for its insulation. The smallest pinhole or slightest damage to the lead will allow the entrance of moisture and ruin the cable for many feet on either side of the defect.

A cable engineer in considering the above facts from a disinterested standpoint must always recommend rubber, especially for power and lighting circuits, it being naturally impervious to water. On several occasions, when the first cost has been considered and paper or fiber was used for economy, the results have been far from satisfactory, and the imperfect service has cost the operating companies more than the original saving. It is simply a repetition of the old adage in current transmission: "The best is none too good."

American rubber insulations are used to-day in all parts of the civilized world. The application of electricity to war ships calls for a wire that will withstand the tremendous heat of the fireroom and the continuous dampness of sea air. Besides being installed in all the vessels of the United States navy, the new ships of Russia and Japan are wired completely with American made conductors.

A recent specification of the United States government for a submarine cable, to be used for intercommunication between the several islands of the Philippine group, is an interesting object lesson of the rigid requirements that can be perfectly met by the use of India-rubber. This specification called for a cable having insulation over a copper strand of $\frac{9}{32}$ inch of rubber applied in two coats, the first being a layer of pure Pará rubber $\frac{1}{32}$ inch in thickness, over which was to be laid a vulcanized coating containing 40 per cent, of pure Pará rubber. The test required that this insulation should show an electrical resistance of 1,000,000,000 ohms per mile, and should withstand a break down test of 5000 volts, alternating current. The rigidity of these specifications for the dielectric can be appreciated when it is stated that the highest working pressure in actual service would never exceed 100 volts. A further guarantee was also required by the government, that the cable built for use in the Philippines should maintain its insulation when laid in 1000 fathoms of water.

Taking as another type, a recent installation in New York city, for an electric railway plant, a cable was designed for three phase transmission work, in underground conduits, in which the copper was covered with a rubber compound $\frac{9}{32}$ of an inch in thickness, and guaranteed for a working pressure of 9000 volts. The perfect confidence that capital has in cable engineers is shown in this last case by the fact that the order called for an investment of over $1,000,000 worth of cable, and that on its perfect working would depend the running of the largest street railway system in the world.

The greatest engineering feat to be accomplished in the beginning of the new century will be the manufacture of a trans-Pacific cable. There have been several bills introduced in the present United States congress referring to the completion of this object. The great necessity of binding our new island possessions, the Sandwich and the Philippines, to us by cable is appreciated by all, and the American government is asked to expend amounts varying from $12,000,000 to $25,000,000 to accomplish this purpose. Several hearings have been heard before congressional committees on cable matters, and the point has been developed that the world's limited supply of Gutta-percha has been "cornered" in anticipation of this great cable enterprise. At a recent hearing before the committee on commerce of the House of Representatives a representative of an American cable company offered to build the cable with India-rubber insulation and give the same quantity as on a Gutta-percha cable. It is to be hoped that the fast approaching new century will prove in its early years that an insulator equally as good as Gutta-percha for deep sea cable work has been found, and that the United States will be able to build and lay its own cables.

RUBBER GOODS MANUFACTURING COMPANY.

THE first annual meeting of the stockholders of the Rubber Goods Manufacturing Co., incorporated under the laws of New Jersey, was held on February 13, at the registered offices of the company in that state, No. 60 Grand street, Jersey City. The official reports which follow embody the information respecting the condition of the company and its operations for the year which was presented to the stockholders.

PRESIDENT'S REPORT.

NEW BRUNSWICK, N. J., February 10, 1900.

TO THE STOCKHOLDERS OF THE RUBBER GOODS MANUFACTURING CO.: Reviewing the general business and condition of the company, in conformity with the by-laws, the president reports as follows:

This company was incorporated January 26, 1899, and organized March 17, 1899. The properties which were acquired at the outset were as follows:

91 per cent. of the capital stock of The Mechanical Rubber Co., which owns:
- (*a*) The plant of the Chicago Rubber Works, at Chicago, Ill.;
- (*b*) The plant of the Cleveland Rubber Works, at Cleveland, Ohio;
- (*c*) The plants of the New York Belting and Packing Co., (1) at Passaic, N. J., and (2) at Sandy Hook, Conn.;
- (*d*) The plant of the Fabric Fire Hose Co., at Warwick, N. Y.;
- (*e*) The plant of the Stoughton Rubber Co., at Stoughton, Mass.

75 per cent. of the capital stock of Morgan & Wright, of Chicago, Ill.;

The entire capital stock of the Peerless Rubber Manufacturing Co., of New York;

The entire capital stock of the India-Rubber Co., of Akron, Ohio.

There has since been acquired:

8¾ per cent. of the capital stock of The Mechanical Rubber Co.;

The entire capital stock of the Sawyer Belting Co., of East Cambridge, Mass.;

The entire capital stock of the Hartford Rubber Works Co., of Hartford, Conn.;

The entire capital stock of the Indianapolis Rubber Co., of Indianapolis, Ind.;

The entire capital stock of the Peoria Rubber and Manufacturing Co., of Peoria, Ill.

Negotiations have been completed for the transfer to the Rubber Goods Manufacturing Co. of the entire capital stock of The American Dunlop Tire Co., of Belleville, N. J., and arrangements have been about completed for other valuable properties and contracts which will materially increase the earning capacity of the company.

The Rubber Goods Manufacturing Co. has no indebtedness and the by-laws forbid any bonded or mortgage debt to be created without the consent of the holders of two thirds of the preferred shares, as well as of the holders of a majority of the general or common stock.

The treasurer's report of the financial condition of the company, as of February 10, 1900, and of the operations for the fiscal year, is appended.

The officers and directors of the company congratulate the stockholders on this showing. Respectfully submitted,

CHARLES STEWART SMITH,
President.

TREASURER'S REPORT.

THE following balance sheet shows the condition of the company February 10, 1900:

ASSETS.

Cash		$ 318,246.72
Accounts receivable		765,589.51
Net earnings of properties acquired prior to November 1, 1899	$1,409,421.87	
Less amount received to date	852,124.83	557,297.04
Investments		22,129,732.28
Total		$23,790,865.55

LIABILITIES.

Preferred stock	$ 7,621,300
Common stock	15,134,600
Total	$22,755,900.00
Surplus	$ 1,014,965.55

W. B. FLINT,
Treasurer.

INCOME AND DIVIDEND ACCOUNT.

Net income received to February 10, 1900	$798,438.26
Dividends paid on preferred stock:	
June 15, 1899 1¾%	
September 15, 1899 1¾%	
December 15, 1899 1¾%	
Total	340,769.75
Available for dividends	$457,668.51
Balance of earnings reserved	557,297.04
Total surplus	$1,014,965.55

W. B. FLINT,
Treasurer.

In addition to the net earnings of $1,409,421.87, hereinbefore stated, the interests acquired since November 1, 1899, have made a profit to December 31, 1899, as estimated, of $60,000.

WE have examined the books, accounts, and statements of the various companies in which the Rubber Goods Manufacturing Co. had acquired an interest prior to November 1, 1899, and we find that, of their com-

bined net earnings for the year ending December 31, 1899, that portion represented by the interests therein of the Rubber Goods Manufacturing Co. amounted to the sum of $1,409,421.87.

We have also examined the books and accounts of the Rubber Goods Manufacturing Co., from which the treasurer's report contained in the foregoing statement was made up, and we hereby certify that said report and statement correctly show the condition of the Rubber Goods Manufacturing Co. February 10, 1900.

BRAGG & MARIN,
Certified Public Accountants.

18 Park row, New York, February 10, 1900.

The retiring directors were reëlected, with the exception of William M. Ivins, who remains general counsel to the company. His place on the board was filled by the election of Arthur L. Kelley, president of the Mechanical Fabric Co. The list now stands as follows, the reference to the business of each director being that given in the company's printed matter:

CHARLES STEWART SMITH, late president New York Chamber of Commerce.

CHARLES R. FLINT, Flint & Co.

F. W. MORGAN, president Morgan & Wright.

L. K. MCCLYMONDS, president The Mechanical Rubber Co.

G. W. BLANCHARD, general manager New York Belting and Packing Co.

R. L. EDWARDS, president Bank of the State of New York.

ULYSSES D. EDDY, Flint, Eddy & Co.

GEORGE W. HEBARD, Westinghouse Electric Co.

ALVAH TROWBRIDGE, president North American Trust Co.

C. H. DALE, president Peerless Rubber Manufacturing Co.

HENRY STEERS, president Eleventh Ward Bank.

ALDEN S. SWAN, Swan & Finch Co.

ARTHUR L. KELLEY.

WALLACE B. FLINT, Flint & Co.

PERCY CHUBB, Marine underwriters.

The executive committee consists of Charles R. Flint, (chairman), W. M. Ivins, G. W. Blanchard, C. H. Dale, L. K. McClymonds, G. W. Hebard, and F. W. Morgan.

The officers were reëlected as follows: C. S. Smith, president; U. D. Eddy, vice president; W. B. Flint, treasurer; W.A. Towner, secretary and assistant treasurer.

A change was made in the company's by-laws so that dividends on the common stock can be declared on the same date as on the preferred. No action was taken on the common stock dividend on February 13, but it was reported that the directors would meet on February 28, and, besides declaring the regular dividend on the preferred stock, would declare 1 per cent. quarterly on the common, payments to begin in June. The dividend on the preferred will be paid before June. This action is owing to the law, which compels the corporation to pay one year's dividend on the preferred stock before anything is paid on the common shares.

BAD WEATHER FOR THE RUBBER SHOE TRADE.

THE exceptionally slight snowfall during this winter has checked the demand for rubber shoes to such an extent as to have a serious bearing upon the factories. Last winter, on the contrary, there was so much snow that not only were the factories kept busy until the end of the season, but the late storms created a demand for rubbers that practically cleared out all stocks in the hands of jobbers and retailers. After such a good season's business dealers were ready to order liberally for the present season, with the idea that, if the demand should not exceed normal requirements, they could comfortably carry over stock to another year. But lack of snow undoubtedly will make these stocks larger than anyone anticipated. A report from Detroit, January 17, said: "Up to date there have been only a few scattering days of really good rubber weather in Michigan, and so far there has been no snow in the woods where lumbering operations are carried on, although the shoe business proper has had an unusually large volume of business." From Omaha it is reported: "In ordinary years retailers ran out of rubbers before the end of the year, but the unusually dry weather this season has enabled them to get through without placing very heavy duplicate orders." A New York report of February 1, said: "There has been only a limited sale for leg boots and arctics, on account of the pleasant weather." Whenever there has been any snow, however, as in New York, and its vicinity, as on January 1, the result has been great temporary activity in the trade. Besides, the extent of the country is so great and the climate so varied that, while dealers in one locality were complaining of fine weather, good orders were being received in others.

The rubber shoe factories began curtailing their operations in January. For example, The L. Candee & Co. (New Haven, Conn.) on January 22 put their operatives on "half ticket," and gave notice that the factory would be closed on Saturdays. Just after the middle of February they shut down altogether. The American factory had closed already, and also the "Wales-Goodyear." Beginning with the month of February the two factories of the Boston Rubber Shoe Co. began to be closed alternately for periods of two weeks, the other being run on reduced "tickets." Later it was announced that the Woonsocket factories would be closed for a few weeks before April 1.

The weather has been a source of dissatisfaction to the rubber trade, where snow falls every winter. A January report from Toronto said: "Heavy rubber goods have not as yet been in demand to any extent neither in the country nor in the lumbering districts. Light goods of course have a call in winter even when there is no snow or damp weather, as a great many people wear rubbers as a protection from the cold, and dealers have had to depend on their sales along these lines almost entirely so far this season." It may be added that the trade in tennis goods in the United States has been excellent, the condition of the weather in winter having, of course, no effect on this line. The sale thus far is said to be in excess of that of any previous year and orders are still coming in freely.

A letter to THE INDIA RUBBER WORLD from Memphis, Tenn., states: "We have had little or no rain during the past fall and winter, neither have we had any snow, and there has been none around us, and the result is that rubber boots and shoes, as well as rubber and oil clothing, have been a drug, and we now have on hand the same supply which we purchased in the fall."

On February 17 and 18 the first heavy snowfall of the season was experienced on the Atlantic coast, amounting to about 11 inches in New York and somewhat more in Boston and its vicinity. The effect was to deplete something retailers' stocks in the cities, while jobbers were also called upon by dealers who were suddenly called upon to size up stocks. At Binghamton, N. Y., however, the snowfall amounted to only 2 inches, and, generally, away from the coast the storm was felt only to a slight degree. Rubber men are hopeful, however, that the remainder of the season may bring enough snow to make up the yearly average, in which event the present stocks will be very largely diminished.

IN a newly designed soft tread horse shoe a hollow rubber ring is framed around the edge of the shoe, with a strap inserted in the interior of the ring to be tightened and draw the upper portion over the edge of the hoof to hold the shoe in place.

THE PRESENT STATUS OF RUBBER PLANTING.

IN response to a growing number of inquiries, it seems proper to say that, with regard to the cultivation of rubber, THE INDIA RUBBER WORLD has no interest beyond placing on record the best obtainable information, to the end that the interests of its readers may be promoted, either by pointing out a new field for profitable investment or by showing that the field does not exist.

The utility of India-rubber is of course established. In every industry and art to which it has been applied successfully the demand is increasing, while new uses for the material are being developed all the while. These conditions obtain not only in the countries where rubber goods long have been in use, but they are becoming true of all the rest of the world. No advance in the cost of rubber checks its use. To take the United States alone, the imports of rubber have increased of late as follows:

YEAR.	Pounds.	Import Value.	Average Price.
1897	42,159,129	$21,670,019	51.4 cents.
1898	44,236,070	25,937,108	58.6 "
1899	54,408,495	34,219,019	62.9 "

This increase of consumption exists in spite of the success attained in reclaiming rubber from worn out goods, which material is now used to the extent of many millions of pounds yearly. Chemistry has not yet availed to produce a practical substitute for rubber. So-called substitutes are in wide use, but the best of these is of value only for combination with true rubber. The supplies of natural rubber are, practically speaking, inexhaustible, but they are for the most part confined to remote countries, sparsely settled with uncivilized people, under climatic and other conditions which make them uninhabitable for white men. Doubtless the output of rubber from the Amazon or the Congo might be doubled in a year if American or European laborers could enter the forests to collect it, but this is utterly impossible.

Such conditions naturally have directed attention to the possibility of bringing rubber under cultivation, as has been done with many other products which once were found only in a wild state. Practical rubber culture in any country is yet to be developed, though the total result of experiments in many parts of the world points to success. Wherever rubber trees flourish naturally it seems reasonable to suppose that trees grown from planting the seeds will yield rubber as well as those which grow from chance. Besides, under cultivation more trees could be placed on an acre than exist usually in a square mile of forest area, so that, in the end, it may prove more economical to produce rubber on plantations than to gather it in wild lands free to all comers.

In the United States interest in rubber planting has been directed largely to southern Mexico, on account of proximity, to stable political conditions and general conditions of development there, to the salubrity of the climate, and to the fact that the isthmus of Tehuantepec is the natural habitat of a tree (*Castilloa elastica*) which yields a rubber of good quality. Today experiments are in progress on a large scale in planting rubber in this district, with encouraging prospects on the whole, but it does not yet seem advisable for persons at a distance to invest an important part of their resources in a business the ultimate conditions of which cannot be said to be thoroughly known, without due consideration and a reasonably comprehensive study of the situation at close range. The inducements which have been held out in certain quarters to attract capital for rubber planting enterprises make the following suggestions pertinent.

A given species of rubber tree cannot thrive beyond certain limits of latitude. Thus the *Castilloa elastica* cannot withstand frost. Its growth must be confined within certain limits of altitude above the sea. It will not succeed without a certain amount of annual rainfall, certain conditions of temperature, a given degree of humidity. Besides, the character of soil will affect the result. The mere fact, therefore, that the *Castilloa elastica* is found in the forests of a given State does not prove

PLANTS IN NURSERY.
Six months old from seed, January 1, 1900.

TREE THIRTY MONTHS OLD.
Transplanted from nursery at 6 months; now 4½ inches diameter.

"CASTILLOA ELASTICA" UNDER CULTIVATION IN THE STATE OF VERA CRUZ, MEXICO.

that it may be planted successfully in every locality in that State.

A fact which has largely discouraged the planting of rubber is the time required for the growth of the trees. While seven years is usually mentioned as the earliest age at which the *Castilloa elastica* may be tapped, there is rubber in the plants from their very beginning. Doubtless the longer tapping is delayed the greater will be the yearly yield, and the longer the life of the tree. At the same time conditions may exist under which rubber may be gathered at an earlier age, and the high prices might make it profitable to bleed the trees freely, even at the risk of shortening their life. It is possible that in time *Castilloa elastica* may be cultivated as an annual or biennial crop, the plants being pulled up by the roots and all the *latex* extracted by mechanical and chemical means.

All these and some other considerations point to the desirability of careful investigation of any field before investing in lands for the culture of rubber—or any other plant the success of which depends upon so many conditions. It is well not only to look into the matter personally, but to secure the advice of experts in tropical planting. While the cultivation of rubber may in the end prove a safer investment than gold mining, it is quite as important that the proper location be chosen for a plantation as for a mine.

Some estimates of the possible profits from rubber in Mexico are based upon the idea of planting the Pará rubber tree (*Hevea Brasiliensis*) there. The Pará tree positively cannot thrive there. The price of Pará rubber is also used in the estimates, but no rubber which Mexico is capable of producing brings within 25 per cent. as much as fine Pará rubber. Nor should the New York or Liverpool prices of rubber be used in estimates, without reckoning cost of transit from the plantation to New York or European markets, including also insurance and brokerage. Many estimates are based upon an impossible yearly product. The price of land is another important item, since profitable planting may be out of the question with too great an initial outlay. Prices of land generally speaking are much higher in our new possessions in the West Indies, than in Spanish-American countries, and certainly it is far too early to speculate on the opportunities in the Philippines, besides which the *Castilloa* is not indigenous there and we must naturally look to government experimentation to determine its adaptability to those islands. The labor supply and the cost thereof should be considered, in comparing one country with another.

PLANTATION OF "CASTILLOA ELASTICA."

Eighteen months from seeding; 7 months in position, January 1, 1900. In State of Vera Cruz, Mexico.

No doubt it may be found practicable to plant rubber in some countries where it is not now found native, but this should be attempted cautiously. Even within such limits of latitude, altitude, climate, etc., as are found to favor the *Castilloa elastica* in Mexico it might not be possible to grow this species in another country, owing to some subtle difference in the soil, which would prevent the trees from yielding rubber, even should they grow freely. It is interesting to note that the United States government is planning a series of experiments in the West Indies and the Philippine group to demonstrate to the world whether rubber can be produced in these islands.

AN UNFAVORABLE VIEW FROM NICARAGUA.

THE communication which follows, received in answer to an inquiry, is signed by a commission merchant in business in Nicaragua, who is the agent at San Juan del Norte for the Royal Mail Steam Packet Co.:

TO THE EDITOR OF THE INDIA RUBBER WORLD: Your letter was duly received. I failed to reply on receipt of same, as I wished to get all the information possible regarding rubber planting. From what I have heard from several friends who have tried this business, and spent a great deal of time and money, I would not advise any one to start into the planting of rubber, at least in Nicaragua, as I am convinced that rubber is "no good." A friend of mine started three years ago and planted 12,000 rubber trees in the woods, underbrushing and thinning out the woods, the same as the natives do. They are now about as thick as a lead pencil and from two to three feet high, and he writes that it will take, at that rate of growth, a hundred years to produce anything.

If the ground is thoroughly cleaned the trees grow rapidly and will begin to produce in seven or eight years, but will it last? The rubber cannot be tapped with a bit, as the wood of the rubber tree is soft and spongy like the balsa tree; it immediately swells and fills the hole, and scarcely a drop of milk exudes. The tree must be tapped by entirely removing a piece of the bark with a sharp instrument, so as to obviate the filling of the wound by the wood swelling, and, furthermore, a small cut will only drain the milk from a very small distance on either side of it, so that to get any rubber from a tree it will have to be badly mutilated, and the milk is the very life blood of tne tree. Will the tree stand constant bleeding, healing, and wounding, long enough to pay the interest on the money invested for the seven or eight years one has to wait, to say nothing of the principal? I am sure not. I have been looking into this carefully, and find that after a tree has been cut three or four times, no matter how carefully, it shows signs of decay. The rainwater gets into the wound and finds its way under the bark, fermentation sets in, wood ants and beetles get in their work, and then good-by rubber tree. To plant rubber properly costs just as much in the first instance as to plant cacao, which produces a crop in the natural manner as fruit, which can be gathered without any damage to the tree; it is only a question of fertility of soil, and a little care to make the cacao tree a constant producer for an indefinite time, or comparatively so. You will probably hear from me again on this subject.

San Juan del Norte, Nicaragua, Dec. 21, 1899. CHARLES D. SCOTT.

APROPOS of the slow growth of rubber plants, Thomas Christy, of London, contributes to *The Tropical Agriculturist* some notes on planting *Castilloa elastica* in Mexico. Plants from seeds sown in the sun measured at one year 5⅜ inches in diameter, and 4 feet 2 inches high. Plants from seed sown in the forest at the same time measured only 12 to 14 inches high. Certainly the experience of the planters mentioned by Mr. Scott does not agree with that of several correspondents of THE INDIA RUBBER WORLD.

WHY CRUDE RUBBER REMAINS HIGH.

THE reports submitted at the second ordinary general meeting of the Rubber Estates of Pará, Limited, held in London on December 22, were far from satisfactory to the shareholders. They contain some points, however, which may be of general interest, as helping to show why Pará rubber is high in price. The company employ rubber collectors, each of whom works two *estradas* (roads), of about 100 trees each. The company charge each collector a yearly rental per *estrada* of 25 kilograms (=55 pounds) of rubber, regarded as equivalent at this time to £7 6*s*. The remaining rubber collected is bought by the company at a price which, on the average, is 7*d*. per pound below the price in the Pará market. There are thus two sources of income to the company, against which they must pay the expenses of sending the collectors from their homes to the rubber fields, and supplying them with working equipment. There is a further source of profit to the company in selling to the collectors all the food and other supplies needed by them and their families, for which purpose stores are maintained on the estates. But the company are far from realizing, as net profit, the total selling value of the rubber which they have to dispose of in the Pará market. The expenses at Pará have been large, and the cost of management at the London end has also been so heavy that retrenchment in the latter respect has already been agreed upon.

The statement made to the shareholders in April last as to the number of collectors at work was by no means fulfilled. It was based upon estimates made by the manager on the estate, who said at that time there were at least 650 men working, but that figure was subsequently reduced to 450, afterwards to 328 and finally to 290. Then it was estimated that it would require £12,000 to equip these 650 workers, whereas £23,000 was actually spent in equipping the smaller number. This sum is partially offset by the stores on hand at the end of the season ending June 30. The report was adopted, subject to an investigation by a committee of shareholders.

The estate referred to, on the island of Marajó, consisting of 284 square miles, was purchased in 1898 from the Visconde Sao Domingos, who was reported to have derived from it as much as 250 tons of rubber per year. On account of delays in making the transfer, the company were unable to collect any rubber during the first crop season. During the second season the company received 58 tons (=255,360 pounds), as a result of using up £23,000 of their working capital. Naturally there have been no dividends on the company's £350,000 in shares.

There has been sent to THE INDIA RUBBER WORLD a marked copy of a London financial journal (*The Stock Exchange*), containing a leader on the Rubber Estates of Pará, in which a suspension of public opinion is asked for until the company shall have had more time in which to get into working order.

* * *

THE INDIA RUBBER WORLD has obtained some points from Mr. Henry A. Cowles, who for some time past has been in charge of a rubber estate in Peru, owned by New York capitalists. The company pay for rubber collected on their own lands about 35 *sols* per *arroba* of 33 pounds, or in the neighborhood of 50 cents per pound. The rubber is sold in the Iquitos market at a certain advance, after which it passes, as a rule, through several hands before reaching the manufacturer. There is no such thing as paying wages to the collectors; they keep closely informed as to the prices ruling in Iquitos, and with every advance in the market they demand a higher price. On account of the great scarcity of laborers throughout the Amazonian rubber districts, they are able practically to make their own terms. The company make a certain profit on the supplies furnished to the collectors, but the prices which can be charged is limited by prices in the Iquitos market, with which the rubber workers also keep well acquainted. The laborers are always in debt to the company, and the death or desertion of one of their number means a clear loss to the company. In answer to a question as who has profited by the rise in rubber which has been steady since the middle of 1895, Mr. Cowles says that the greater part of the advance has gone to the rubber collectors. Moreover, there is no hope of a lower scale of payment for their work, for the reason that, having become accustomed to high wages, it will be difficult in future, to get the men to go into the forest for less money. Good profits have also been made by the traders who explore every part of the rubber country, buying rubber in small lots for all kinds of goods, and selling the rubber collected to the exporting houses along the Amazon. Mr. Cowles is of the opinion, however, that manufacturers might profit by buying rubber nearer the sources of supply than is now the rule. He mentioned the case of one New York manufacturer who, within a year, has arranged for the purchase of rubber for direct shipment from Manáos, with very satisfactory results. He is convinced that the greater part of the Amazonian rubber resources have not yet been touched, but as new districts are gone into the labor supply becomes worse rather than better, with the result of pointing to higher costs of collection.

FRICTION OF STEAM PACKINGS.

A SERIES of experiments to determine the frictional losses in steam engines and pumps due to the rubbing of piston and valve rods in their stuffing boxes was made recently at the Case School (Cleveland, Ohio), under the direction of Charles Henry Benjamin, the results of which will form part of Volume XXI of *Transactions* of the American Society of Civil Engineers. It is generally conceded that these losses vary with the kind of packing used, the steam pressure, and the judgment of the engineer. In order to show the extent of such losses and the law of their variation use was made of apparatus devised by one of the students. Seventeen different packings, representing the leading types, were submitted to tests, with results which are given in detail in Mr. Benjamin's paper. There is room here, however, only for a summary of his conclusions, viz.:

"That the softer rubber and graphite packings, which are self-adjusting and self-lubricating, consume less power than the harder varieties. The old braided flax style gave very good results.

"That oiling the rod will reduce the friction with any packing.

"That there is almost no limit to the loss caused by the injudicious use of the monkey wrench. [In many of the experiments the nuts were tightened with the fingers only, and then just enough to prevent leakage.]

"That the power loss varies almost directly with the steam pressure in the harder varieties, while it is approximately constant with the softer kinds."

A BOTANIC garden has been established at Coquilhatville, Congo Free State, by the Belgian government, to be called the Kew gardens, and to be in charge of Leon Pynaert, of Ghent, who was recently a student at the Kew gardens in England. Before entering upon his new duties he visited Ceylon and Java to study the cultivation of cacao, coffee, India-rubber, and other tropical products.

LITERATURE OF INDIA-RUBBER.

DIE WERKE VEREINIGTEN GUMMIWAAREN-FABRIKEN HARBURG-Wien, vormals Menier-J. N. Reithoffer, in Harburg an der Elbe, Wimpassing, und Linden-Hanover. [Cloth. 8⅞"×6½". 127 pp.]

WHILE issued practically as a trade publication, this attractive album views of factory interiors, with descriptions of one of the most important establishments in the rubber industry in Europe, deserves mention under the head of rubber literature. It is devoted to methods and facilities for production rather than to the products themselves, and is a book of general interest as illustrating a typical modern rubber factory, without regard to the particular concern which may form its subject. There are three distinct plants of the Harburg-Vienna company, to which an article was devoted in THE INDIA RUBBER WORLD of July 1, 1898. This book contains no fewer than fifty-three views, mainly of interiors, and for the most part full page "half-tones." There are illustrations of steam plant, rubber grinding and mixing and calender rooms, tire making, rubber shoe making, proofing cloth, ball making, hard rubber processes, vulcanizing rooms, packing rooms, etc. The views indicate that the working rooms are spacious, well lighted, and comfortable, and that the construction throughout is substantial. The reading matter contains many points of interest regarding the various branches of the industry carried on by the company, who employ more than 3500 working people with the assistance of 6,000,000 marks in active capital and 3,477,000 marks in reserve funds, the total equal to about $2,344,250.

DIE KAUTSCHUKPFLANZEN UND IHRE KULTUR. (CAOUTCHOUC Plants and Their Culture.) Von Professor Dr. O. Warburg, Lehrer für tropische Pflanzenkunde am Orientalischen Seminar zu Berlin. Berlin: Kolonial-Wirtschaftliches Komitee. 1900. [Paper. 8vo. [6] + 154 pp. 9 illustrations. Price 3 marks.]

THIS is a useful compilation, from the monthly issues of *Der Tropenpflanzer* published during the past two years, of a series of original papers by one of the conductors of that journal. The first twenty-five pages are devoted to detailed statistics of the production of Caoutchouc by countries, and by species, and also of consumption by countries, together with the volume of exports and imports at the principal centers of trade in the commodity, comparative figures being given, as a rule, for ten or more years, in order to show the rate of increase. Chapters are next devoted to the Pará grades of rubber; the *Castilloa*, Ceará, and Mangabeira rubbers; the African sorts, rubber from various species of *Ficus*, and the minor rubber plants of America and Asia. The amount of production from each species is discussed, and the quality and market values of the product, besides which the trees are described (and in several cases illustrated), together with notes on the conditions under which the trees thrive in nature. The book is further rendered of interest by a reference to every experiment which has come to the notice of the author in the planting or cultivation of rubber care being taken, so far as possible, to state results up to date, and give such references as will enable the statements made to be verified. While calculated to be of much value for its suggestions, the book is not offered as a manual for the practical rubber planter.

IN CURRENT PERIODICALS.

RUBBER Culture [in British Central Africa.] By J. McClounie, head of scientific department. [Advises the culture of the *Landolphia* vines, and gives estimates for forming a plantation.]=*British Central Africa Gazette*, Zomba. VI-11 (November 24, 1899.) p. 2.

Madagascar India-rubber. [Notes on several native rubber species, and on experiments in cultivation.]=*Bulletin of Miscellaneous Information*, Royal Gardens, Kew, London. No. 147-148 (March-April, 1899). pp. 35-39.

Rubber in the Congo Free State. By R. Schlechter. [From a report on the Caoutchouc expedition of the German Colonial Agricultural Committee.]=*Der Tropenpflanzer*, Berlin. IV-1 (January, 1900.) pp. 28-31.

Cultivation of the Ceará Rubber Tree in the French Congo.=*Revue des Cultures Coloniales*, Paris. V-38 (October 5, 1899) pp. 219-220.

Caoutchouc from the *Mascarenhasia*, of Madagascar. By Henri Jumelle, adjunct professor in the faculty of sciences at Marseilles.=*Revue des Cultures Coloniales*, Paris. V-41 (November 20, 1899.) pp. 297-301.

A New Source of Caoutchouc in the Congo. By Em. Lebrun. [*Ficus Eetveldiana*, L. Linden, a large tree found on the rivers Sankuru and Kassai, and which, besides yielding rubber, is highly regarded as an ornamental plant. With figure.]=*La Semaine Horticole*, Brussels. IV-1 (January 13, 1900.) pp. 6-7.

Notes on the *Sapium biglandulosum* [the tree from which "Columbian virgin" rubber is obtained.]=*Revue des Cultures Coloniales*, Paris. VI-44 (January 5, 1900.) pp. 14-17.

The Caucho Trade in South America. By Fred. J. Hessel. [Translated from THE INDIA RUBBER WORLD, with the addition of a sketch map.]=*Bulletin* de la Société de Geographie Commerciale, Bordeaux. No. 22, 1899; pp. 294-302.

Mangabeira Rubber. [Résumé of various recent publications.]=*Bulletin of Miscellaneous Information*, Royal Gardens, Kew, London. No. 153-154 (September-October, 1899.) pp. 185-190.

"Caucho" on the Amazon. Discovery of *Castilloa elastica* in Brazil. By Dr. J. Huber, chief of the botanical section of the Pará museum.=*Revue des Cultures Coloniales*, Paris. V-42 (December 5, 1899.) pp. 327-329.

The Sap of the *Ficus elastica*. By Dr. Axel Preyer. [A study of its properties, with numerous references to authorities.]=*Beihefte zum Tropenpflanzer*, Berlin. I-1 (January, 1900.) pp. 24-33.

The Gathering of Gutta-percha in the Grande Comore. By M. Milne Edwards.=*Revue des Cultures Coloniales*, Paris. V-42 (December 5, 1899.) pp. 333-335.

Gutta-percha. By R. Thienemann. [Discussion of the extent of the supply.]=*Der Tropenpflanzer*, Berlin. III-11 (November, 1899.) pp. 534-535.

The *Eucomma ulmoides* (Oliver), a New Gutta percha Plant. By J. Dybowski and G. Fron.=*Revue des Cultures Coloniales*, Paris. V-39 (October 20, 1899) pp. 225-228.

Friction of Steam Packings. By Charles Henry Benjamin, AM. SOC. M. E. [Report on tests at the Case School, Cleveland, Ohio.]=*Transactions* of the American Society of Mechanical Engineers, New York. Vol. XXI.

Substitutes for India-rubber. By H. L. Terry, F.I.C. [Combatting the idea that a rubber substitute has been found that is adapted to the insulation of electric cables.]=*The Electrician*, London. XLIV-10 (December 29, 1899.) pp. 326-327.

On the Analysis of Manufactured India-rubber. By Dr. Rob. Henriques. [Translation from *Angewandte Chemie*.]=*American Gas Light Journal*, New York. LXXII-6 (February 5, 1900) pp. 211-212.

The Use of Rubber Insulated Wire in Steel Conduits. By V. Zingler. [Contends that rubber is unsuited for a permanent insulator for wires drawn into metal tubes.]=*The Electrical Review*, London. XLVI-1154 (January 5, 1900.) pp. 33-35.

Cantor Lectures. Cycle Construction and Design. By Archibald Sharp. [Lecture IV, devoted to tires.]=*Journal of the Society of Arts*, London. XLVII-2442. (September 8, 1899) pp. 791-798.

The Action of Heat on India-rubber. [Editorial.]=*Engineering*, London. LXVIII-763 (October 13, 1899.) pp. 464-463.

Some of the Undeveloped Resources of Bolivia. By Sir Martin Conway [Paper read before the Society of Arts, January 31; deals largely with India-rubber resources; with map.]=*Journal of the Society of Arts*, London. XLVIII—2463 (February 2, 1900). pp. 234-243.

Rubber Industry of Sierra Leone. By John T. Williams, United States consul. [Relates to methods and conditions of the trade.]=*Advance Sheets of Consular Reports*, Washington. No. 655 (February 15, 1900.) pp. 1-3.

THE INDIA-RUBBER INDUSTRY IN GREAT BRITAIN.

By Our Regular Correspondent.

I NOTICE that two fatalities which occurred in rubber works recently have been attributed to the spontaneous ignition of benzine or naphtha vapor. Now although a good deal yet remains to be cleared up as to the exact nature of spontaneous combustion and the best way to circumvent its dangers, still it is pretty well recognized that the phenomenon is associated only with bodies which are capable of uniting chemically with the oxygen of the air to form oxygenated products. This process, which in the well known cases of charcoal and drying oils is one of absorption, produces the heat of chemical reaction, which frequently rises high enough to set up regular combustion. Now the case of hydrocarbons is quite different, and I am quite sure that any case of their ignition is wrongly attributed to spontaneous combustion but must assuredly be the result of contact with a flame or an electric spark. It is well known that electric sparks are given off from spreading machines and calenders when woolen goods are being washed, and I have no doubt that many fires which have occurred in my experience were caused in this way. Although not an infallible remedy, yet the attaching of conducting wires from the machines to the earth by the medium of gas or water pipes has done much to lessen the risk of fires from this cause. Instances of real spontaneous combustion in the case of lampblack unfortunately are not rare, and it must be confessed that the mystery surrounding their occurrence has been as yet but only partially dissipated. One fact, however, with regard to the various lampblacks which are used in English rubber works is that it is the cheaper heavy qualities which show this undesirable tendency to fire, while I have no case on record where the high priced carbon blacks have given trouble in this way. As the ultimate behavior of the black cannot be foretold with any degree of precision, it certainly seems desirable that rubber manufacturers should look to their interests by adopting certain precautions. These are (1) giving good notice to the manufacturer, so that the latter can fill the order out of stock which has stood and not send out freshly made stuff; (2) have the black delivered in several small barrels instead of in one large one; (3) keep the black in a dry place quite apart from inflammable matter and where it can do no damage if it should fire. There is nothing very troublesome about these precautions, and I feel sure, in the light of my recent experience, that their general adoption is very advisable.

SPONTANEOUS COMBUSTION IN RUBBER WORKS.

ARMY SUPPLIES.

THE rush on khaki cloth for the soldiers in South Africa has led to a demand for a macintosh coat of the same color, and this is now being largely sold for officers' use, instead of the former regulation dark blue parametta. For some reason it is found very difficult, if not absolutely impossible, to dye the khaki a yellow color on wool, and the macintoshes which are now being sold are of cotton or union basis. To continue on the subject of the war, I hear that the large order of 100,000 ground sheets referred to in my last letter was given in equal quantities to three firms only, and not further subdivided, the question of rapid delivery having a great deal to do with the placing of the contracts. One of the successful firms was Macintosh's, and what with this and their admiralty contracts they are experiencing an exceptionally busy time. It is in cases like these that the firms who have a large plant come to the fore and have the pull over smaller competitors.

MEXICAN RUBBER.

AN editorial observation in a late issue of THE INDIA RUBBER WORLD in connection with the lord chief justice's remarks to the new lord mayor of London derive additional interest in the fact that a shareholder recently recovered £1000 damages from Mr. W. O. Clough, M.P., for misstatements in the prospectus of the India Rubber (Mexico) Limited. A London paper commenting on the case speaks in rather adverse terms of the way in which members of parliament allow themselves to be connected with industrial ventures of which they know little or nothing. I should think that by this time Mr. Clough must be heartily sick of the subject of Mexican rubber, so unfortunate has been the company with which his name is connected. It is quite possible that if the subject is gone into properly by practical men, rubber plantations in Mexico may prove profitable concerns. In connection with the information at our disposal on this matter it is somewhat regrettable that Señor Matias Romero's volume on "Coffee and India-rubber Culture in Mexico" (1898) should deal with figures and statistics of such a remote date as 1872.

SOME UNSOLVED CHEMICAL PROBLEMS.

THE Society of Chemical Industry, of which Professor Charles F. Chandler, of New York, is the president for the current year, has inaugurated a new departure in the way of offering prizes for the solution of certain specified chemical problems. The first problem to be worked at is that of the utilization of the waste alkaline liquors from paper works. I refer to the subject here because it is closely related to the problem which has long confronted the elastic thread manufacturer, who has to dispose of his waste caustic soda liquor. Of course the bulk of this liquor does not at all approach that with which the paper makers have to deal, but still in certain cases, where local authorities have obtained powers against river pollution, the question is one of some moment. Considering the prevailing prices of alkalies, it does not seem possible to recover products at the price at which they can be bought in the open market, and the partial trials which have been made in this direction have been abandoned. It certainly is not a prepossessing fluid, this waste caustic containing, as it does, a large amount of sulphide of sodium in addition to some free caustic. Its presence alone in a water course or sewer when diluted may in many cases give rise to no nuisance, but it is when there is acid in the water that the trouble comes, as free sulphuretted hydrogen is given off. I knew a case where such waste caustic ran into a stream, certainly more opaque than pellucid, alongside of a conduit bearing the waste acid from an indigo factory, and those who are familiar with the properties of sulphuretted hydrogen can imagine for themselves the trouble that ensued. Of course the liquor can easily be treated so as to render it less of a nuisance, but I don't think it is any use counting on such action resulting in a profit.

ANOTHER FAILURE TO COMBINE.

A MONTH or two ago I mentioned that some attempt was being made by firms wholly in the proofing trade to effect a combine of such businesses, but I may state now definitely that the scheme has been abandoned without receiving even anything like the lukewarm support that was accorded to the attempts

to float the big general rubber combination. Writing as I do for those who are in the trade, I do not think it is necessary to enter into a detailed account of the causes which brought about the disruption of the negotiations, but it may not be superfluous to refer to one or two points. The fact that many of the important proofing businesses are part and parcel of a general business—as in the case of Moseley, Macintosh, Silvertown, and North British, to select four names at random—introduces difficulties in the way of a partial combine such as do not present themselves in the case of firms like Abbott's, Birnbaum's and Mandelburg's, who confine themselves to proofing. It would be no good to combine if firms of the importance of those first mentioned were left outside, especially from the point of view of labor. Just now great difficulty is being experienced by some firms in obtaining the requisite amount of skilled spreaders. Many of the men who offer themselves in this capacity have to be taught a good deal before they can be considered competent to touch the better class of work, and the opinion has been emphatically expressed by one "in the know" that such efforts would probably be made by outside firms to get hold of the best available labor, so as to seriously cripple the prospects of those who committed themselves to a combine.

A NEW RUBBER COMPANY.

THE prospectus of the Bell-Hall Unpuncturable Tyre and India-Rubber Co., Limited, was issued to the public on January 14, the capital asked for being £350,000. I am writing without any special knowledge of this tire, or the special "B. H. L." fabric which the company is to acquire, but £300,000, the price to be paid to the vendors, certainly seems a large sum to give for a property whose value cannot be said to have been established. The fiasco which attended the floating of the Dean unpuncturable tire and the Warrington rubber works three years is still fresh in the memory of certain investors who accepted the statements of the prospectus without demur, and, although I have no grounds to go upon myself in doubting whether the success prophesied in the prospectus will be attained, yet several adverse opinions have been expressed in the trade. Some of the London papers have commented upon the prospectus, especially with regard to excessive capitalization. A statement in the prospectus refers to the intention of the company to conduct a wholesale business in rubber and waterproof goods of every description in order to secure a further lucrative source of income with little or no increase in working expenses. As regards this source of income it is pretty evident that there are rubber manufacturing businesses enough, and I am not inclined to be over sanguine about the prospects of any new firm unless it is strong in specialties.

ALMEIDINA RUBBER.

A RECENT consular report states that Almeidina, or "potato rubber," to which I referred a month or two ago, is worth 8*d.* per pound in the London market. Without going deeply into the matter, I may say that I am open to conviction that it may be worth that sum, but is there any evidence that it is being sold? I am strongly inclined to doubt its sale at even half that price, and any merchants who are thinking of dealing in it and are basing their prospective profits on a selling price of 8*d.* per pound should look carefully before they leap. According to the above report a fair quantity of it is being produced, but its destination is not stated. Some attempts, I am aware, have been made to introduce it into the linoleum and certain other industries, but so far with no success. There is another substance, by the way, which comes periodically before the attention of the rubber manufacturer, and that is "Mexican gum"—a dark brown body resembling in its properties an impure Gutta-percha. To the best of my knowledge the rubber manufacturers have so far failed to recognize that it has any intrinsic merits.

SIR H. M. STANLEY AND RUBBER.

I NOTICE that Sir Henry M. Stanley, K. C. B., M. P., has accepted a seat on the board of W. T. Henley's Telegraph Works Co., at Woolwich. It was the discovery of vast regions of rubber forests in Central Africa by Mr. Stanley (as he then was) which led certain newspapers to infer that the supremacy of the Brazilian product was seriously threatened. Probably Mr. Stanley himself, when he wrote his book, had but vague ideas on the subject of the value of the various raw rubbers of commerce, but he will now have an opportunity of getting a practical insight into the subject. The chairman of the Henley company is Mr. Sidney Gedge, M. P., and Mr. Hatton is the works manager. The original Mr. Henley, who started the firm, was a somewhat eccentric character, and the business seems to have got into rather low water until the present public company took it over. Originally concerned only with cable making, the firm now does a general mechanical rubber business, as well as a large trade in golf balls, and the area of the works has been considerably extended of late years. As near neighbor the Henley company has the Western Electric Co., located in the works of the late Fowler-Waring Co., and a little further off are the Silvertown works of the India-Rubber, Gutta-Percha, and Telegraph Co., Limited. All these works have a frontage on the north side of the Thames, while almost opposite, on the south side of the river, are to be found the Siemens Brothers & Co., Limited, and those of the Telegraph Construction and Maintenance Co., the chief reason which has caused there business to be concentrated pretty well in one spot being of course the facilities for shipment of the cables, and contiguity to London, where in respective central offices the firms carry out a good deal of their business negotiations. In addition to the firms named above, Callender's Cable Co. and The Hooper Telegraph Co. are also located on the Thames.

RUBBER IN THE COURTS.

THREE legal cases connected with the rubber trade have recently been mentioned in the courts of justice, but as they are all still *sub judice* I forbear from offering any comments beyond stating the causes of dispute. In the first case the Dunlop Pneumatic Tyre Co., Limited, are seeking to prevent Messrs. David Moseley & Sons from manufacturing the Warry tire. In the second case the Leyland Rubber Co., of Leyland, Lancashire, now known as the Birmingham and Leyland Rubber Co., are suing The New Grappler Tyre Co., of Dublin, for about £4000 value for tires delivered, but which the defendants say were defective. The other case is one in which the Messrs. Moseley dispute the validity of Mr. Isador Frankenburg's patent for using aluminum powder as a basis on which to print designs in colors on waterproof fabrics.

HARD RUBBER.

IT is somewhat singular how backward the British rubber manufacturers are in the making of vulcanite, or hard rubber, compared with the Germans, the main difficulty appearing to be in obtaining the final polish. Of course there are various purposes for which vulcanite is used, where this matter of polish is not a very important one, and here the British rubber firms who make the material can compete with the foreigner. The British rubber firms who make vulcanite are the North British, Moseley, and the Silvertown, while there is one firm which manufactures only vulcanite and does not touch other goods; this is the Scottish Vulcanite Co., of Viewforth Works, Edinburgh. It is to be hoped that the British firms will not let the Germans continue to have the advantage of them in polished vulcanite; we ought to be able to meet our competitors on level terms.

NOTES ON THE RUBBER TRADE IN EUROPE.

RUBBER SHOES HIGHER IN GERMANY.

THE Vereinigten-Gummiwaren-Fabriken, Harburg-Wien, sent out the following circular, dated January 1, 1900, to their patrons:

On account of the steady rise in prices of crude rubber and the permanent advance in all raw materials—coal, stuffs, foundry products, wages, etc.—we are compelled to effect an advance, from this date, on rubber shoes. The new price list will reach you within a few days. Meanwhile we quote you the new prices for the most important brands, and remark that prudence forbids us to rest at this present advance. Unless conditions change materially, a further advance cannot be avoided. As a matter of fact, you are, per convention, bound to let this advance go into effect to-day.

The new price lists have appeared and show an advance, according to grades, ranging from 5 to 15 per cent. The *Gummi-Zeitung* suggests that, as this advance is in keeping with the general rise in prices of products, the public will, presumably, soon become accustomed to higher prices for rubber footwear. THE INDIA RUBBER WORLD'S German correspondent mentions that the Harburg-Vienna company, who are the leading producers of rubber shoes in the German empire, have been increasing their efforts for the sale of these goods.

THE GERMAN TRADE IN RUBBER SHOES.

THE editor of the *Gummi-Zeitung* (Dresden), in a review of the rubber shoe trade, remarks that, although the condition is far from being unsatisfactory, still the dealers might easily double their sales if they would educate the public so as to make them see that the rubber shoe is not an article of luxury, but one of indispensable necessity to every civilized person. The rubber shoe should be continually brought before the public by according them prominence in the show windows, through the press, and by means of circulars. To make this necessity plain the *Gummi-Zeitung* prints two articles by prominent physicians, the purport of which is that the bacilli, which are at present recognized to be the source of all the blood and lung diseases, fail entirely in their murderous assault on the constitutions of some persons, while they have an easy prey in others. The cause of this difference can be traced easily to the fact that the systems which readily succumb to disease have been undermined by successive colds. Most all colds are contracted by having either wet or cold feet, and the only sure preventive is the rubber shoe—the heavy woolen socks of old being more of a detriment than a boon. The editor offers to furnish copies of these articles to rubber shoe dealers at cost, and recommends that one be placed in each pair of rubbers sold; that the dealers cause their local papers to reproduce them, and in this manner to bring about the desired result, *i. e.*, that the people of central Europe may be brought to feel that they are as much in need of the rubber shoe as those of other countries.

SELLING RUBBER SHOES IN TURKEY.

AN American, writing from Constantinople to the *Shoe and Leather Reporter* on "Selling Shoes in Turkey," has this to say in regard to rubber footwear:

"American rubber overshoes, or 'goloshes,' are quite well introduced here already, and are much liked. There is an enormous consumption of these goods throughout the Levant, partly because of the fearful mud during the winters, and partly because many Moslems wear them in order that they can easily slip them off before entering a mosque for prayers, and thus comply with the Prophet's injunction, since this is accepted as fulfilling its spirit quite as well as would the actual removal of the shoe itself.

"In this line of trade the North British Rubber Co., Limited (Edinburgh), probably do the largest business, although the Russians are pushing them hard, and both naturally find more favor than our goods because they give longer credits, or their prices are somewhat lower. Bostons, Candees, and Americans are all known here and are liked for their quality, although some complaint is heard that they ought to be made heavier and stiffer in the heel. The storm slippers met with a ready sale here, and the European competitors have already imitated them at lower prices than we charge. However, this industry has by no means yet reached its largest development."

AMERICAN RUBBERS IN GREAT BRITAIN.

IN a report on American boots and shoes in Great Britain, Mr. Richard Westacott, the vice consul general, says regarding rubbers: "I may say that the United States Rubber Co. is ably represented and finds a ready sale for its goods in Great Britain. American rubbers are far lighter and more stylish than those of English manufacture, and are bound to sell where American leather goods are sold, as there are no other rubbers that fit an American boot or shoe properly, on account of the lack of shape of other brands."

INCREASE OF CAPITAL.

THE Vereinigte Hanfschlauch und Gummiwaren-Fabriken, in Gotha, with a branch in Magdeburg, have become organized as a stock company (aktiengesellschaft). The directors are Eduard Lange, in Gotha, and Otto Pöhler, in Armstadt, while Wilhelm Schwarz and George Gerlach, merchants in Gotha and Armstadt, respectively, are substitute directors. The capital has been increased from 1,200,000 to 1,800,000 marks, in fully paid shares of 1000 marks. The company pays 8 per cent. dividends and their shares are quoted at 125 on the Berlin bourse.

RUBBER PRICES AND BILLIARD TABLES.

ANOTHER effect of the higher cost of rubber appears in an announcement by George Wright & Co. (London), that "in consequence of the very great advance in the price of slates, rubber, etc.," the price of all their billiard tables has been advanced 5 per cent. This firm are very large manufacturers, turning out about 1000 tables yearly, for a superior class of trade. They call special attention to the quality of their patent low "Excelsior" cushion, of which they are sole owners. An interesting insight into the importance of the billiard table trade to the rubber industry is given by an inspection of the Messrs. Wright's extensive illustrated catalogue of 219 pages, of which they have favored THE INDIA RUBBER WORLD with a copy.

BRITISH TRADE NOTES.

THE Non Collapsible Tyre Co., Limited (Birmingham), have changed their name to the Midland Rubber Co., Limited. The Midland Rubber Works are of some thirty years' standing, and were taken over by the recently organized Non Collapsible company. It has been found convenient, however, to continue the use of the name "Midland," for which reason the corporate title of the new company has been changed, as above stated.

=The New Grappler Pneumatic Tyre Co., Limited (Dublin), are making a specially strong tire of khaki colored rubber, for the bicycles supplied to the army in South Africa. They are also making bright red colored tires for the British post office.

HEARD AND SEEN IN THE TRADE.

WALKING through the shoe department of one of the big retail stores in New York, I noticed side by side on a counter two pairs of women's rubbers, one stamped with the brand of a well known manufacturer and the other with a fictitious company name. They were "firsts" and "thirds." I asked a salesman about the trade in these goods and this is about what he said: "The greater part of our trade in women's rubbers is in the cheapest grade. We sell the first grade for 65 to 75 cents, and the third grade for 49 cents. Many customers buy the cheapest rubber, in spite of anything we may say about quality, though some of them understand the advantage of buying the best rubbers to be had. It seems that the people with the least money buy the 49 cent shoes, although they are pretty certain to have to buy a second pair during the season, while the people who can better afford the expense see to it that they get a pair that will last through the winter. Men are more disposed to buy the better grades." It occurred to me that a service might be rendered to the trade by having leaflets printed explaining the difference between the grades of rubbers, and the advantage from buying the best. The dealers might do this, even if the manufacturers should not care to, for the reason that the sale of a pair of rubbers that fails to give satisfaction is sometimes enough to cost a store the loss of a good customer.

* * *

JOHN WANAMAKER'S Philadelphia store advertisements lately have contained this paragraph, in relation to rubber shoes: "We have only one quality—the best. There are seconds . . . but it pays neither to sell nor buy such stuff—not to mention thirds. Anything but firsts is extravagant, no matter how it looks at the start." If dealers generally were to advertise in this style—and live up to their advertisements—it ought to work a revolution in the rubber shoe trade.

* * *

AFTER hearing some inquiries lately for some new material to be used as a substitute for Gutta-percha, I asked Mr. Henry A. Reed, secretary of the Bishop Gutta-Percha Co., for his views of the matter. "I have heard a great deal about substitutes for Gutta-percha," said he, "but have never seen any. By far the best substitute is India-rubber, which answers well in many places. India-rubber is better than Gutta for electric cables in shallow water, especially in hot climates, but thus far has not been used successfully in long cables in deep water. I am not at all sure that it may not be successful, but it will be more troublesome to make, and more difficult to repair. There is plenty of rubber in the world, and if Gutta cannot be had, as is likely to be the case, rubber is its most natural substitute, if not the only one."

* * *

THERE appears to be an increasing sale of druggists' sundries bearing the stamp of the dealer rather than of the manufacturer. Goods of this class are very apt to be sold at lower than what may be called "standard" prices, from which it is clear that they are also below standard in quality. One reason for the branding of goods with the dealer's name is that a sale may sometimes be effected by this means to a druggist who might not otherwise be induced to buy, the inducement being that he gets a certain amount of advertising in this way. But the manufacturer who permits his goods to be sold in this manner misses a certain amount of advertising that ought to be valuable to him, if the goods have any merit. The manufacturer who goes upon the idea that his reputation is saved if he brands his first quality goods with his trade mark, while consenting to put out cheaper grades marked with the names of his customers, makes a mistake in the end. The value of his trade mark may be preserved, but every low priced article put out not only interferes with the current sale of his better goods, but also helps to bring into disrepute the whole line of production in druggists' sundries. I talked recently with a druggist from Omaha who mentioned an important firm in the sundries trade which had always declined selling him any goods under another brand than their own trade mark, and he evidently regarded this as an evidence of the determination of this firm to maintain the quality of their goods. This druggist, by the way, is urging the drug trade of his town to combine to maintain the prices of rubber sundries, both as a means of keeping up the standard of goods in this line which they handle, and also to keep the department stores from capturing the trade. If the druggists insisted upon a uniform price, he thinks, the idea might be made prevalent in time that the department store rubber goods were cheaper because of lower quality.

* * *

THE steady increase in the exports of reclaimed rubber from the United States for some time past, in spite of the greatly enhanced price, led me to seek some explanation from a selling agent. In response to a question whether reclaimed rubber was displacing substitutes in the European factories, he said: "No, I don't think that the use of substitutes is being affected at all. It is fine Pará rubber that is being affected. A manufacturer can compound reclaimed rubber with Pará grades and get a material equal in value, if not superior, to the best Africans. Certainly he can obtain a good compound at a price below the cost of Africans. Here is an example. When fine Pará is quoted at $1.10, it means that the washed rubber will cost the manufacturer $1.30. Suppose he compounds this with such reclaimed rubber as is now selling at 16 cents, in the following proportions:

60	pounds washed fine Pará rubber	@ $1.30 =	$78.00
40	pounds reclaimed rubber	@ .16 =	6.40
100			$84.60

"The cost will be 84.6 cents a pound. But suppose that he had bought African rubber at 70 cents. Allowing for 30 per cent. of shrinkage, the cost of the washed rubber would be $1 a pound, while the quality might be less satisfactory than the compound I have suggested. The African gum would contain from 5 to 20 per cent. of resinous matter, rendering it soft, while in case of the compound, the Pará would contain a very slight percentage of resins, and such resins as might be found in the shoddy could hardly bring up the total for the compound to the lowest figures met with in Africans."

* * *

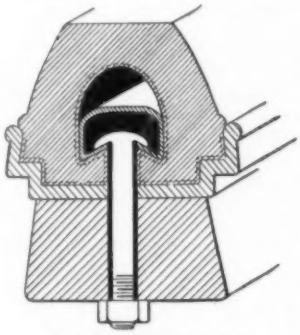
ONE is accustomed, in open winters, to complaints of the effect of the weather in discouraging the sale of rubber shoes and mackintoshes. But these appear not to be the only branches of the rubber trade which are damaged by good weather. A man in the druggists' sundries line tells me that while the weather in winter continues so fine that people "can't catch cold," there is a marked decline in the demand for hot water bottles.

THE MAN ABOUT TOWN.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE DUCASBLE VEHICLE TIRE.

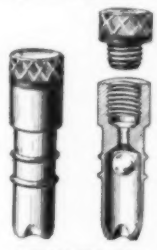
THIS tire, which is of French origin, consists of a rubber strip, having a void interior space and an exterior section of special shape. This tire is held firmly to the rim by means of an annular segment, fitting into the molded form of the tire, and bound by means of teebolts through the felloe of the wheel between the spokes. The India-rubber is molded in the form of an arch, the sides being separated. By this method a spring is made out of an inert material, so much more elastic as it is already under pressure, and much more rigid, as it is already under tension. The resistance of the sides or abutments is progressive, the thickness of the rubber increasing towards its base, thus applying the principle of the arch of a bridge. It is a compromise between the solid and the pneumatic tire. The elasticity is due to the interior void space, which cannot be filled up by the flattening of the tire under pressure of the heavy weight of the carriage, neither by sudden shocks, thus possessing advantages over the solid tires. Its economy is due to its non-puncturing qualities, its inability to be torn off and consequent expense due to repairs, thus possessing advantages over the pneumatic tires. In France this tire is in extensive use on automobiles and other vehicles. The German rights have been acquired by the Continental Caoutchouc- und Guttapercha-Compagnie, and the rights for the United States by The Manufactured Rubber Co. (No. 815 Drexel building, Philadelphia), who exhibited it at the recent cycle and automobile show in New York.



DUCASBLE VEHICLE TIRE.

BOWN AUTOMATIC TIRE VALVE.

THE distinctive feature of this new valve, for which a patent is pending, is a rubber ball, the position of which is shown in the illustration. The instant that pumping is stopped, when the tire is being inflated, the rubber ball flies back to its seat, stopping the outflow of air. The harder the tire is pumped, the tighter the valve will hold. It is claimed for this valve that it is simpler in construction than other kinds, having fewer parts; that pumping the tire is accomplished with less effort; that the space for the admission of air is larger; that the ball valve acts quicker than other forms, thus losing less air after each stroke of the pump; that the ball cannot get out of order and will not wear out; and that the valve is without places for dirt to lodge. [Bown Machine Works, Battle Creek, Mich.]



AUTOMATIC TIRE VALVE.

A NEW MORGAN & WRIGHT TIRE.

THE "M. & W." Speed tire does not differ in principle from the other double tube tires manufactured by the same firm, but in being lighter and constructed from thread fabric. It is rumored that the tire is intended to be marketed at a slightly less cost than the Palmer tire. [Morgan & Wright, Chicago.]

"GOODRICH U. P." SELF CLOSING TUBE.

THIS self closing inner tube for cycle tires is so formed in the process of construction that when it is inflated the rubber contracts on the inside, and thus closes ordinary punctures made by pins, tacks, thorns, and the like. Of course large punctures or cuts would have to be repaired the same as in air tubes of regular construction, by the use of patching sheet. This new method of construction offers no hindrance to the resiliency of the tire. The tubes are made in either "butt end" or "endless" patterns. They are protected by letters patent issued November 11, 1899. They may be purchased singly by cyclists, or dealers may be requested to supply wheels fitted with tires embracing this new improvement. [The B. F. Goodrich Co., Akron, Ohio.]

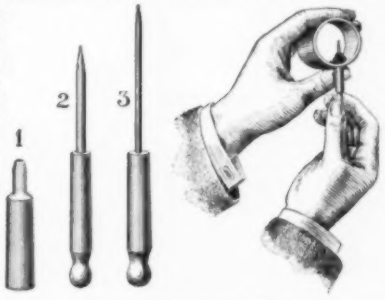
"U. P." SELF-CLOSING TIRE.

A BUCKLE TIRE.

IF one were to look over the various patents granted to tire inventors, and select from them unusual means for attaching the tire to the rim, not one would be found more novel than the buckle attachment. These buckles are the well-known spring buckles, and are secured in a row around the side of the tire which is toward the rim. The rim itself has depressions in it spaced to match the location of the buckles on the tire. The idea of course, is to secure the tire firmly against creeping, but the fact that the tire has a flap on the inner side to prevent abrasion by the buckles, might lead one to fear that the tire would not last as long as if fastened in some other way. This buckle tire is the joint invention of C. Eickmann and H. H. Fay, of Indianapolis, Ind.

ISBILL'S NEW PROCESS REPAIR TOOL.

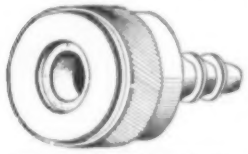
THIS outfit consists of the three parts herewith illustrated (1, 2, and 3) in exact size, and the usual tube of rubber cement. The engraving also illustrates the method of applying the tool. In use Tool No. 2 is inserted through the cup No. 1. Both are then pushed through the puncture into the tire. Tool No. 2 is withdrawn, and No. 1 remains in the puncture. Then cement is placed on the needle of No. 3, which is then thrust through No. 1. The shoulder on No. 3 prevents the cement from escaping, on the contrary forcing it into the tire by compression. The needle is then twisted and withdrawn, causing the cement to form a button or plug inside the tire. The device is also suitable for automobile tires. [H. Overbaugh, sole agent, No. 335 Broadway, New York.]



ISBILL'S TIRE REPAIR TOOL.

MERSHON TIRE PUMP CONNECTION.

THE distinctive feature of the nipple is its rubber packing, which is so shaped that when it is thrust down over a tire valve the pressure of the air from the pump will close it securely around the valve stem and prevent escape of air. Thus it is necessary in applying the connection to a valve to merely seat it over the stem. There are no threads to give bother or to loosen. It is stated that the connection will fit any ordinary valve stem. The body of the nipple is made of brass, nickel plated. Sample by mail, 25 cents. [Mershon Manufacturing Co., Des Moines, Iowa.]



MERSHON PUMP CONNECTION.

TRIPOLITE FOSSIL FLOUR.

THE Premier Tripolite Co., of New York city and Saint Anns, Cape Breton, incorporated under the laws of the state of New York, have acquired extensive properties in Nova Scotia and will shortly place upon the market a superior quality of Tripolite fossil flour and infusorial earth. The lakes controlled by this company are in one belt—insuring uniformity in quality. The pure white Tripolite obtained therefrom is free from grit, dirt, and sand, and when put through the company's process of preparation is of the fineness of flour. The analysis of the deposits of Tripolite shows nearly .96 pure silicate. No finer quality can be produced in the world. Infusorial Earth runs .74 to .80 pure silicate. When navigation opens the company will send several cargoes of all gradings to the United States and Europe, where the quality of Tripolite has been very favorably received.

THE GOODRICH UNIVERSAL PEDAL RUBBER.

THIS is a pedal rubber constructed on a new pattern, for which a patent is pending. It is designed to fit any "rat trap" pedal. A special advantage of this pedal is that it does not require nuts or bolts to hold it in place, for which reason there are none of those parts to work loose or become lost. Besides, the pedal is very easily attached and can be put on by any one without special tools. The two metal tongues, as shown in the illustration, are clinched through a washer, and this holds the rubbers firmly in place. [The B. F. Goodrich Co., Akron, Ohio.]

GOODRICH UNIVERSAL PEDAL RUBBER.

THE "WOLVERINE" BASIN STOPPER.

THE "Wolverine" basin and bath stoppers are made of one solid piece of best white rubber, with an inserted nickel ring, as shown in the sectional cut herewith. They are, therefore elastic and fit any waste, and are sanitary, with no openings to collect dirt. They are also strong and do not pull apart, besides which they are easily inserted and drawn. They are listed at $6.25 per dozen, basin size, and $10 for bath size. [Wolverine Brass Works, Grand Rapids, Mich.]

"WOLVERINE" BASIN STOPPER.

PNEUMATIC CUSHION RUBBER HEEL.

THE strongest claim made for the Pneumatic Cushion Rubber Heel is the fact that it will not slip, or track dirt or snow. The pressure upon the diaphragm, caused by the lower or suction chamber becoming filled with snow or dirt, forces the diaphragm up against the compressed air, in the upper chamber; and upon lifting the foot, the pressure from beneath being relieved, the compressed air in the upper chamber forces the diaphragm back to its original position, thereby expelling the snow or dirt from the lower, or suction chamber. The weight of the body on the heel forces the compressed air, in the upper, or air chamber, down upon the diaphragm, and in turn forces the diaphragm down into the lower, or suction chamber; this action of the diaphragm produces a displacement of air in the lower, or suction chamber, and upon the diaphragm assuming its original position, a partial vacuum is produced in the lower, or suction chamber, thereby creating a suction and consequently prevents slipping on ice or wet surface. [The Pneumatic Cushion Rubber Heel Co., No. 19 Lincoln street, Boston.]

MORE ABOUT HARD RUBBER NAILS.

THE hard rubber nails to which reference was made in the last INDIA RUBBER WORLD are made in various sizes and shapes for use in work where ordinary nails are liable to corrosion, or where they may set up galvanic action, or for any one of a large number of purposes where metallic nails are objectionable. The common form have either counter-sunk or cup heads, the stems being square and drawn to a point. Some other forms are shown in the illustration. In color they are a beautiful golden brown. They are very light, but notwithstanding their extreme brittleness can be driven with a hammer into soft woods in sizes up to one inch long without boring a hole for their reception. For sizes from one to two inches long, it is necessary to bore holes to start them or for the larger sizes, for their entire length. [Harburg Rubber Comb Co., Hamburg, Germany.]

HARD RUBBER NAILS.

ECUADOR.—The collection of India-rubber [says the New York *Sun*] promises to become an important industry. The high value of this article has induced collectors to go further afield than formerly. In the forests of the interior in the vicinity of the River Napo there is still a great reserve of rubber trees, the difficulties of transport hitherto preventing the exploitation of this region. It is, however, only a question of a short time when these rich territories will be systematically worked over in search of the gum. In 1897 the amount of rubber exported was 271 tons, and this increased to 429 tons in 1898.

NEW TRADE PUBLICATIONS.

THE UNITED ASBESTOS CO., LIMITED (London), who may be regarded as pioneers of the asbestos trade, at least in the lines which come into connection with the rubber business, issue a catalogue of their extensive and varied line of products which forms a substantial volume of 144 pages. It seemingly includes every application of asbestos to steam engine and boiler use and also for waterproofing, with engravings where these can be made use of, and prices in detail. The firm have a special rubber goods department, and they advise THE INDIA RUBBER WORLD that, in addition to their own specialties, they are prepared to take up and import into England any other good packings.

THE MECHANICAL FABRIC CO. (Providence, R. I.) issue a new catalogue of "Bicycle Tires and Tire Sundries," their line of tires embracing "Conqueror" single tube road and tandem, "Wainwright" single tube, and "Flexifort" double tube. They manufacture a number of specialties for repair work. [4″×6″. 15 pages.]——"What People Say About Our 1899 Tires" is an extensive collection of testimonials. [5¾″×3½″. 48 pages.]

"TALKS ON RUBBER" is a handsomely got up illustrated booklet, describing the rubber goods used for medical purposes, sick-room appliances, hospital supplies, elastic stockings, surgical instruments, and the like, kept for sale at retail in the rubber goods department of the drug store of the Wm. B. Riker & Son Co. (Sixth avenue and Twenty-third street, New York.) This firm have always believed in giving special attention to rubber sundries, in connection with the drug trade, and their devotion to this policy has led the growth of their trade in rubber goods until it has become necessary to devote one floor of their building to it. Not only have they made it a point to keep in stock every requirement in rubber sundries, as to styles, quality, and price, but they have been active in the advertisement of their goods. "Talks on Rubber" is as attractive a catalogue of sundries as one would care to see, and it ought to serve to commend to druggists elsewhere the importance, not only of carrying rubber goods in stock, but of devoting special attention to their sale. [5¼″×8¼″. 144 pages.]

RIKER'S RUBBER GOODS DEPARTMENT.

THE CONTINENTAL CAOUTCHOUC-UND GUTTAPERCHA-COMPAGNIE (Hanover, Germany) have sent us, in addition to the three tire publications mentioned in the January INDIA RUBBER WORLD, a dozen various catalogues and lists, devoted to as many different branches of their production. The largest is a "Price List of Rubber Goods for Technical Uses," or mechanical goods, which they make in great variety. But the spaces for price quotations are all blank; the catalogue is also interleaved, to allow customers of the company to add memoranda of new articles, or specifications on which they may desire special goods made. [6″×9″. 131 pages.] Their complete catalogue of "Continental" tires includes the single tube variety as well as the standard construction, besides rubber pedals and brake blocks, repair outfits, valves, waterproof capes, etc. [9¼″×6⅛″. 56 pages.] A separate catalogue of pedals and brake blocks embraces 83 patterns of the former and 32 of the latter. [9″×6¼″. 36 pages.] Other lists relate to clothing and waterproof stuffs, rubber mats, wringer rollers, and particularly to rubber balls and balloons, plain and ornamental, in great variety.

THE BOSTON WOVEN HOSE AND RUBBER CO. (Cambridgeport, Mass.), being again in the market to supply their "Vim" cycle tire, have issued a neat pamphlet describing the two grades in which it is made—the "Vim B." or road tire and the "Vim Cactus"—together with vulcanizers, cements, and repair outfits. [6″×9″. 15 pages.]

THE DURHAM RUBBER CO., LIMITED (Toronto, Ont.), in their new "Full Catalogue," list and give prices on wide variety of belting, hose, packing, and other rubber goods for mechanical use. The catalogue is illustrated, well printed, and conveniently classified. They invite correspondence also in reference to bicycle tires and solid rubber carriage tires. [4″×7″. 104 pages.]

THE NEW YORK AIR COMPRESSOR CO. (New York), who manufacture a large number of appliances for the use of compressed air, in connection with many of which India-rubber is used in some form, send us an attractive illustrated catalogue [6″×9″. 40 pages], with a notice that it will be followed shortly by the issue of a more elaborate and voluminous one.

ALSO RECEIVED.

JOHN W. BUCKLEY, No. 69 Warren street, New York.=Rubber Goods for Mechanical Purposes [at retail]. 24 p.

The Barton Manufacturing Co., No. 338 Broadway, New York =The "New York" Rubber Stamp Vulcanizer and Matrix Presses. 16 p.

W. & B. Douglas, Middletown, Conn.=Catalogue of Pneumatic Pumps for Bicycle and Sulky Use. [Leaflet.]

THE FIRST GUTTA GOLF BALL.

THE first golf balls were made of leather, stuffed with feathers. Soon after the introduction of Gutta-percha into Europe—it was in 1848, in fact—Sir Thomas Moncrieff, an English golf enthusiast, conceived the idea of making a golf ball of Gutta-percha. He experimented and succeeded in fashioning into shape a lump of the new material. But when the trial came off it was found that the new ball would not equal the old one. It would leave the club all right, but after going a short distance would duck down. It was given up as useless. Then, the legend goes, caddies played with the discarded invention until they nicked it up on all sides. What was the surprise of all to find that, with the cuts, the ball would sail through the air even better than the old fashioned leather ball. So in the next mold lines were nicked in the Gutta-percha, and the present seemingly perfect ball resulted.

AMERICAN RUBBER GOODS EXPORTS.

RETURNS have now come to hand of exports of rubber goods from the United States for six months of the current fiscal year, the values being as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1899....	$51,535	$22,580	$ 99,918	$174,033
August	59,069	43,378	102,264	204,711
September....	42,858	34,233	122,959	200,050
October.....	52,643	34,894	106,223	193,760
November....	33,913	47,898	120,221	202,038
December ..	39,051	40,426	101,771	181,248
Total.	$279,069	$223,409	$653,356	$1,155,840

The exports of rubber goods of all kinds for the corresponding six months of 1898 reached a total value of only $839,631. The rate of increase is nearly 26 per cent.

WHERE AMERICAN RUBBER GOODS GO.

THE exports of rubber goods from the port of New York during the four weeks ended January 30, 1900, amounted in value and were consigned as follows:

Great Britain	$49,355	Venezuela	$ 120
Germany	10,699	British Guiana	69
France	2,548	Dutch Guiana	52
Belgium	1,093	Brazil	1,116
Switzerland	212	Argentina	855
Italy	11,647	Chile	535
Netherlands	3,006	Peru	896
Austria Hungary	985	Ecuador	460
Denmark	1,263	British Australia	2,590
Norway and Sweden	202	New Zealand	99
Portugal	35	Philippines	73
Mexico	908	China	101
Central America	604	Hong Kong	583
Cuba	4,186	Japan	1,808
Porto Rico	1,372	British East Indies	62
British West Indies	191	British Africa	1,585
Dutch West Indies	27	Azores	168
Danish West Indies	29	Nova Scotia	251
Haiti	22	Newfoundland	82
San Domingo	193		
Colombia	541	Total	$100,623

Some other items of exports during the same period have been classified by the customs service as follows:

DRESS SHIELDS.

Antwerp	$ 672	Liverpool	$3,530	Vienna	$ 1,410
Hamburg	3,446	London	443		
Havre	1,368	Southampton	4,786	Total	$15,655

INDIA-RUBBER CEMENT.

Antwerp	$213	Hamburg	$823	Total	$1,036

INDIA-RUBBER THREAD.

Australia	$1,250	Barmen	$2,766	Total	$4,016

RECLAIMED RUBBER.

Bremen	$ 1,509	Havre	$ 7,901	Manchester	$ 2,600
Glasgow	15,002	Liverpool	15,735		
Hamburg	400	London	3,753	Total	$46,900

CRUDE INDIA RUBBER.

Glasgow	$1,478	Libau	$ 576	Marseilles	$ 300
Hamburg	2,311	Liverpool	11,750	Rotterdam	2,149
Japan	392	London	8,646	Southampton	69
Total					$30,661

The total rubber goods exports from New York during February, 1899, amounted in value to only $42,902. The value of such exports during the first week of February, 1900, amounted to $37,187.

Exports of rubber shoes from Boston have been: Week ending January 5—$6035; January 12—$656; January 19—$857; January 26—$573; February 2—$159; February 9—$13,017.

AN APPEAL FROM BURMA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The coffee leaf disease has hit Burma hard these last two years. It has in fact knocked out the biggest places, and has just touched us. We may save ourselves, however. At least we shall make a good "Yankee fight," and I hope we shall win. But meanwhile our hearts yearn for rubber—*Castilloa elastica*. We can get seeds here only by the dozen. Could you, would you, be so kind as to send us the addresses of parties in Central America and Mexico who would be likely to have seed to sell?

I shall send you soon a specimen of rubber (or Gutta-percha) which the natives use for bird lime. I do not know whether it is of any value, but if it is, there is plenty of it to be had.

U. P. CRUMB.

Toungoo, Burma, January 6, 1900.

[MR. CRUMB requests that any answers may be sent in care of the office of this journal, giving as full particulars as possible. —THE EDITORS.]

RUBBER HOOF PADS.

THE firm of Vought & Williams (New York), large dealers in blacksmiths' supplies, who early began to make a specialty of rubber hoof pads, advise THE INDIA RUBBER WORLD that they have not issued a catalogue of the latter class of goods for some time, on account of so many changes taking place in styles. "The changes have been in the shape of improvements made on the part of the pad manufacturers to meet the views of the horseshoers and horse owners. Owing to this fact we thought it wise to hold off issuing a new catalogue until the manufacturers had succeeded in getting rubber pads down to a thoroughly practical basis. We find that there has been a very handsome increase in the sale of rubber pads. As to rubber horseshoes, we think that, if anything, the sale has fallen off to a certain extent. At any rate, we do not find the demand for rubber horseshoes as large as it was a year ago."

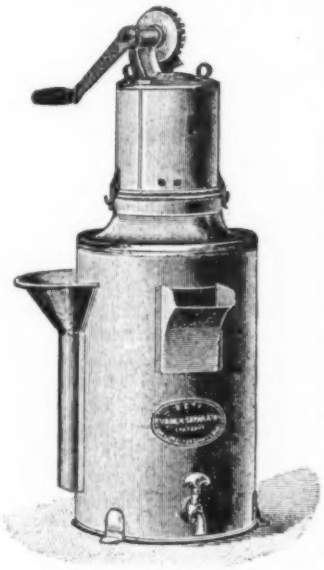
GORING AND CONGRESS SHOES.

THERE is a suggestion that the "congress" shoe can be restored to some part of its former popularity, in an article in the *Boot and Shoe Recorder*. Competition in shoe prices has led to a cheapening of quality, including the gore, and this is a point of interest to the rubber industry.

"Good goring costs something [says our contemporary]. It must be made of practically pure, unadulterated Pará rubber, the most expensive, and this costs so much that there has arisen among the goring makers a similar competition as that among shoe manufacturers. The demand for a cheap goring has, of course, been met by cheap gore manufacturers, who will make something which looks like goring and which may have something like the stretch of good rubber when it is new, but which very rapidly deteriorates. It stands well enough for the time being, and appears all right when the shoes are received by the customer, but as soon as it is brought into active use on a customer's foot it begins to stretch and soon ceases to return to its original form. By the time a customer has worn two pairs of such shoes he makes up his mind that congress shoes are of no earthly use to him, and he immediately switches off to other shoes than congress, and the brunt of the loss comes down on the goring industry. The cheap goring manufacturers are not altogether to blame for making this cheap gore. They have been obliged to do so because of the demands of shoe manufacturers for a cheap article."

MACHINE FOR COAGULATING RUBBER.

A DEVICE for the mechanical coagulation of the *latex* or milk of the India-rubber tree has been patented lately in England.* It has been referred to briefly in THE INDIA RUBBER WORLD, both in relation to its development by Mr. John Hinchley Hart, F.L.S., superintendent of the botanic garden in Trinidad, and to the manufacture by Thomas Christy & Co., in London. As described in the patent specification, this machine is made in upper and lower compartments. The *latex* is placed in the upper compartment and there agitated by a stirrer, with the addition of water, alcohol and water—or other suitable liquid. The stirrer forces the *latex* through a filter or trainer when the incorporation with the liquid has sufficiently reduced the density of the *latex*. To facilitate this the arms of the stirrer can be set so that the top overhangs the lower part in the direction in which the arm revolves, thus exerting a downward pressure on the liquid when the stirrer is in motion. The bottom arm is in contact with the filter or strainer, and it presses the *latex* through the strainer as it revolves. The lower compartment is so arranged that water can be poured in at the side through a funnel or other suitable construction, the water entering low down in the compartment, thus causing the rubber which has passed through the filter to rise. The separated rubber flows out of an aperture high in the lower chamber. The water and matter other than pure rubber can be drawn off by a tap at the lower part of the compartment. The accompanying cut will assist the reader in following the foregoing description.



"BETA" RUBBER SEPARATOR.

In a sheet of directions for the use of the machine, published by the manufacturers, it is recommended that the rubber *latex* be first mixed with 50 per cent. of its volume of clean water, and then passed through a fine copper sieve, to remove particles of bark and the like, before being poured into the machine. It is stated that after the *latex*, following its treatment in the machine, as above indicated, has become thoroughly drained, it will coagulate of its own accord, and may be turned out in cakes or sheets. The drying of these sheets may be assisted by passing them between wooden rollers, and the sheets may be completely dried by passing through each a loop of twine, and suspending them in an airy place. *Latex* mixed with water will stand without coagulating 48 hours, it is said, without affecting the quality of the rubber produced. Messrs. Christy & Co. add: "Rubber produced by this process will keep longer, and is of far better quality, than by any other process, as all the matters likely to deteriorate the quality are removed by the frequent washing."

Writing to *The Tropical Agriculturist* the Messrs. Christy say: "The work [by these machines] was first done in the West Indies, then in Brazil, and, as they have been found to answer the demand is much larger than the supply. . . . With this machine Pará rubber can be coagulated with ease."

The new device is called the "Beta" rubber machine. The price in London is £6 10s., including five spare sieves.

A gentleman engaged in the business of preparing crude rubber in South America, whose attention has been called to the principle on which this machine is operated, suggests to THE INDIA RUBBER WORLD that the whole idea is faulty, for the reason that he has found the application of any water to the rubber milk injurious. Hence the *seringueros* take great pains to protect their collections of rubber milk from the rain. Manifestly, when the smoking process is relied upon for the coagulation of rubber, the more water is added to the milk, the greater will be the difficulty in evaporating the moisture. Possibly, also, in the natural state of the rubber globules, the addition of water may affect them injuriously. But the idea of the mechanical separator is to rupture these globules and thereby bring about a change in the nature of the rubber, which is, in the opinion of Mr. Hart, perhaps the real cause of coagulation. "The rupture can be caused in various ways," according to Mr. Hart, "and he who succeeds in causing it in the simplest and most economical way will have solved the question of the preparation of rubber." The principle upon which this new machine works has been compared to the cream separators, now so largely used in the American dairy industry. The gentleman referred to at the beginning of this paragraph expressed the opinion that if the new machine should accomplish what is claimed for it, the cost of preparing rubber would be materially less than is now the case where the smoking process is in use.

* Treating Latex of India-rubber. [Communicated from abroad by John H. Hart, Trinidad, superintendent botanic gardens.] Patent 26,093 (1898). Date of application, December 10, 1898; accepted, November 11, 1899. Thomas Christy, 25 Lime street, London, E. C.

THE OUTLAY FOR GOLF BALLS.

"HOW many balls does a good golfer require in a match?" was the question put to a club member, with the request that he frame his answer in reference to the class of golfers composing the thirty-two who qualified for the amateur championship at Lake Forest early in July.

"About 4 a day, I think, would be a fair average," was the reply. "That means playing 36 holes. Of course, 2 would be enough for some, and others would use more than 4."

On this basis of 4 balls each a day for 32 players, playing 36 holes for 6 days, we have 128 balls in use each day, or a trifle over 10½ dozen. Calling it 11 dozen, the week would show 36 dozen of golf balls in actual play, and this does not include the number used by the 40 unsuccessful players who competed on the first day. Many of these men remain and go over the course once or twice every day, and it would be a safe estimate to say that 100 dozen golf balls are used in each amateur championship tournament.

This represents an outlay of $350 for balls alone. It is a rich week for the professional, for while many players go well supplied, they often find they want another box before the week is over, and the 25 cents or more that the professional makes on each dozen leaves him a comfortable profit, in addition to the sale and mending of clubs during the championship week.

When the new balls become so badly cut up that no self-respecting golfer would be found with them in his caddie bag, they are then made over. "Remades" these are called. The player can turn his worn balls over to the club professional and pay him from $1 to $1.50 for making them over, or he can buy "remades" for about $2 a dozen.—*Sporting Goods Gazette.*

"SAFETY" WIRES GOING TO PARIS.

THE exhibit to be made by the Safety Insulated Wire and Cable Co. (New York) at the Paris exposition consists of samples of "Safety" insulation selected from the company's standard types as used for army and navy purposes, for electric power, and for the transmission of intelligence. They include the single conductor deep sea type as used around Cuba and among the Philippines; cables for torpedo work; material

used in wiring naval vessels for the United States, Russia, and Japan; and power cables designed for pressures ranging from 110 to 25,000 volts. The illustration herewith shows merely the backboard of the sample case, which is formed of one piece of solid mahogany about two inches thick. A concave frame surrounds this backboard and when the exhibit is mounted at the Paris exposition, a glass front will protect the samples. The cabinet work, as well as the design of the exhibit as a whole, cannot fail to make a good impression.

NEW METHOD OF MAKING AIR TUBES.

A NEW invention has for its object the prevention of porosity in air tubes for bicycle tires, this being one of the chief defects to which such tubes are liable. Porousness in such cases is caused by minute air cells in the rubber sheet from which the tubes are made. This troublesome air is imprisoned in the rubber while it is being sheeted through the calender, or while being forced through the tube machine. It is difficult to detect the defect of imprisoned air, for which reason numerous defective tubes—the manufacturers' bugbear "wasters"—accumulate, during the testing process, *i. e.*, while being blown up, or under pressure of air. Other defects are taped seams and clumsy joints. With a view to arriving at some method whereby the walls of air tubes may be made homogeneous, and otherwise improving their construction, Mr. Joseph Thomas Wicks, an India-rubber expert and factory manager, of Birmingham, entered upon a course of experiments which has convinced him that air tubes should be formed in molds, with internal pressure. This method would consolidate the rubber material in the walls of the tube, and expel all hidden air from the rubber, at the same time pressing out all seams and joints, the result being a reliable and presentable seamless and jointless molded air tube. The new process has been patented in England (No. 10,250 of 1899).

The importance of this question is particularly marked in Great Britain, where detachable tires are in such widespread use. It is estimated that their production equals in volume that of tire covers, or one-half of the whole tire manufacture. A correspondent of THE INDIA RUBBER WORLD is of the opinion that the Dunlop company sell 2,000,000 air tubes yearly, and all the other British manufacturers about as many more.

TO COMPETE WITH TILLINGHAST TIRES.

A CYCLE tire invented by Frank A. Seiberling consists, according to the patent specifications, of "an inner endless rubber tube surrounded by a layer of fabric, and an outer tube of rubber with an inner layer of fabric arranged to lie in contact but not cohering and adapted for frictional engagement." It will be remembered that in the finding of the United States court in the Tillinghast tire suit Judge Colt said that the Tillinghast patent "describes a single tube pneumatic tire composed of two annular rubber tubes with intervening fabric all vulcanized together and forming a complete integral tire having all of its component parts securely united." And again: "It was to overcome the objections to this form of tire [the Dunlop] that Tillinghast invented his single tube tire, composed of an inner rubber air tube, an outer rubber covering, and an intervening fabric, inseparably united by vulcanization." The new tire is offered as affording the advantages of the ordinary single tube tire, without infringing upon the patent under which it is manufactured. [The Goodyear Tire and Rubber Co., Akron, Ohio.]

SOME WANTS OF THE RUBBER TRADE.

[92] A REQUEST comes to us "for the approximate cost of equipment of a first class, up to date mechanical rubber plant—an estimate of the cost of the complete equipment of machinery, tools, power, etc., also the buildings, and about the average capital invested in all available assets of the majority of mechanical rubber plants."

[93] "We would like you to advise us, if possible, the makers of metal shutoffs, such as are used on fountain syringes."

[94] A manufacturer in the carriage trade asks for "the best place to buy rubber drill and rubber duck. We use large quantities of these goods, and the information further that we would ask at your hands is the best place to buy what is called 'seconds' in these goods."

AN AMERICAN RUBBER STORE IN LONDON.
[European branch of the United States Rubber Co., 47, Farringdon St., E. C.]

NEWS OF THE AMERICAN RUBBER TRADE.

SUED BY THE UNITED STATES RUBBER CO.

SUIT has been brought by the United States Rubber Co. against the Estate of Joseph Banigan, naming damages in the sum of $1,400,000, on the ground that, by reason of a conspiracy to defraud the plaintiff corporation, the price which it paid to acquire the Woonsocket rubber properties, in 1893, was vastly in excess of their value. It is asserted that one of the appraisers of the properties was rewarded with $200,000 for helping to fix the fictitious valuation. The service of preliminary writs issued by the United States district court at Providence, R. I., upon the executors of the defendant estate was begun by the marshal on February 1, but it is understood that the declaration will not be filed until June. This suit has been brought in the federal court for the reason that the United States Rubber Co., having been organized under the laws of New Jersey, are a foreign corporation.

On the same date a suit was filed in the Rhode Island courts by the Woonsocket Rubber Co., to recover from the Banigan estate $300,000, alleged to have been wrongfully withheld from that company by the late Mr. Banigan, and writs were served by the sheriff. The counsel for the plaintiffs in these actions are Francis Colwell and Edwards & Angell. James Tillinghast will appear for the defendants. Various other suits growing out of the relations of Joseph Banigan to the above named companies remain undecided.

George H. Hood is the defendant in a suit for $1,000,000 damages, filed by the United States Rubber Co., by Paul Sheldon, counsel, in the New York supreme court, on February 2. The petition charges that Hood, as the owner of the majority of shares of the Boston Rubber Co., sold his holdings to the plaintiff corporation under an agreement not to engage again in the same business, outside of Nevada, Idaho, and Nevada, but that he has since become engaged largely in the manufacture of rubber footwear in violation of this agreement, employing therein more than $300,000 paid to him by the plaintiff for his holdings, thereby damaging the plaintiff. A Boston newspaper contains this card:

TO THE EDITOR OF THE GLOBE: The suits of the United States Rubber Co. against Mr. George H. Hood have nothing to do with the Hood Rubber Co., and in no way affect the Hood Rubber Co., as Mr. George H. Hood never was, and is not now, either a stockholder or an officer.

FREDERIC C. HOOD,
Treasurer.

OTHER RUBBER CASES IN COURT.

SUIT has been brought in St. Paul, Minn., by Morgan & Wright (Chicago), against Farwell, Ozmun & Kirk, of the former city, for the alleged infringement of a patent relating to a pneumatic tire, dated July 25, 1893.

=A motion in the suit of Banigan *v.* Woonsocket Rubber Co., growing out of an unpaid promissory note for $100,000 and filed August 8, 1896, was to have been heard in the Providence courts on February 10, but by agreement of counsel, was postponed to March 2.

=Charles E. Gorman, who some time ago brought suit at Providence, R. I., against the Banigan estate, for services claimed to have been rendered in drawing up the will of Joseph Banigan and for subsequent legal services for the estate, has filed a bill in equity for a discovery of the property of Mr. Banigan. He seeks damages of $30,000. The executors have filed an answer denying that certain of the alleged services had been rendered, and that a revelation of the details of the estate are not necessary for the prosecution of the plaintiff's action at law.

=The Rhode Island supreme court has rendered a decision in favor of James Moran in his suit against the Corliss Steam Engine Co., for damages for injury due to defective insulation of electric wires in the works of the defendant. The court held that, in view of the dangerous nature of electricity, and the frequent occurrence of accidents, the defendant was bound to exercise a high degree of care for the protection of the employés, which, in the present case, did not appear in evidence.

=Arthur Meyer, junior partner in the late firm of Reimers & Meyer, India-rubber importers (New York), applied to Justice Andrews, in the New York supreme court, for the appointment of a receiver for the assets in liquidation, in a suit brought to enforce a claim for compensation for his interest in the good will of the firm. The motion was denied by the court, on the ground that the firm of Reimers & Meyer having been dissolved by limitation of time, no such thing exists as good will which belonged to the old partnership.

=The Collins Pneumatic Hub Co. (Sayre, Pa.), whose product was described in THE INDIA RUBBER WORLD of May 1, 1890, have passed into the hands of a receiver.

THE TYER RUBBER CO. BUILDING.

THE Tyer Rubber Co. (Andover, Mass.), manufacturers of druggists' rubber goods, have begun extensive alterations and additions to their plant, and expect to have the same finished and in running order by next August, ready for fall trade. It is understood that certain of their older buildings are to be torn down, to be replaced with a brick structure of three stories and basement which, with the one erected in 1892, will give a frontage of 225 feet on Main street, and 130 feet on the intersecting street. Additional boilers, engine, and rubber machinery are also provided for in the company's plan of development.

RUBBER GOODS IN A MEXICAN STORE.

THE firm of Heymann Sucesores, established in the wholesale and retail hardware trade at Mazatlan, in Sinaloa state, since 1845, and now one of the largest mercantile firms on the west coast of Mexico, inform THE INDIA RUBBER WORLD that they carry in stock a good line of rubber goods, including "hose, rubber bands, washers, syringes, nipples, belts, erasers, and all goods of Caoutchouc." They add that near their port are large numbers of rubber trees, the product of which is exported to Germany and New York.

NEW PRICES ON COMBINATION BOOTS.

THE 1900 price list of combination boots issued by the United States Rubber Co. on February 5 covers the same items of goods as in the list for 1899, with only one or two exceptions. There has been a change in prices, however, applying to most of the items. Taking the list as a whole, the advance in the net price to the retail trade averages 6⅜ per cent. over 1899. The goods embraced are combination felt boots and the "Uncle Sam" knit boots, of which latter 360,000 pairs were sold last year, not one pair, it is stated, having been returned.

GOOD PRICES FOR AUCTION GOODS.

THE annual shoe auction in Boston, on the first two days of February, was more largely attended than for some years past. The catalogue mentioned "about 50,000 cases," but it is reported

that Auctioneer Nazro disposed of nearer 70,000. The bidding was spirited, and the prices bid are said to have been 25 per cent. higher than last year, the whole sale averaging probably 60 per cent. less than list prices. One report places the total amount realized at about $600,000. William F. Mayo & Co. (Boston) bought 20,250 cases. Each day, in accordance with its custom, the firm of Johnson, Moody & Co., invited the buyers to an attractive luncheon.

"The jobbers who purchased the 50,000 cases of rubbers at auction recently exhibited considerable courage," says the *Shoe and Leather Reporter*. "They cannot possibly get the goods in hand earlier than March, which means, under ordinary conditions, that they must carry them over till another fall. They paid good prices for the goods. They paid for the cases and also for the freight to their places of business. Still, had double the quantity have been offered by Mr. Nazro they would have met with ready sale."

AMERICAN RUBBER NEWS VIA EUROPE.

THE London *India-Rubber Journal* contains the following information: "The death is announced from America of Mr. Thos. A. Bell, who was connected with the Star Rubber Co., of Trenton, Ontario, which is now the Empireubber Manufacturing Co., and is one of the most successful American rubber businesses." Also: "The United States Rubber Co. has declared the regular dividend one per cent. on the preferred stock and five per cent. on the common stock."

STANDARD UNDERGROUND CABLE CO.

THE annual meeting was held at Pittsburgh, Pa., January 23. The year's business amounted to $1,944,053.39—an increase of 60 per cent. over 1898. During the year the shareholders received $400,000 in stock dividends and $125,000 in regular dividends, and yet at the end of the year the company had a surplus of $207,622.57. The company began the new year with $500,000 worth of orders and have since booked $200,000 more. They are erecting branch factories at Oakland, Cal., and Perth Amboy, N. J. Mark W. Watson was elected president, Joseph W. Marsh, vice president and general manager, Frank A. Rinehart, secretary and treasurer, and C. M. Hagan, auditor.

CONSOLIDATED RUBBER TIRE CO.

THE third quarterly dividend of 1¼ per cent. on the preferred stock will be payable on March 1 to holders of record on February 20. The first dividend was paid on September 1, and the second on December 1. The amount of preferred stock issued is $4,000,000. The New York *Times* of February 10 reported: "Consolidated Rubber tire was very dull. The declaration of the regular quarterly dividend had practically no effect on the stock, as it had been expected, and fully discounted." Quotations at that time were: Common, 8 bid, 10 asked; preferred, 41 bid, 43 asked.

At the directors' meeting on February 8, Isaac L. Rice was elected president of the company to succeed Emerson McMillan. Mr. Rice said later that he had accepted the presidency of the company upon the report made by the auditor of the company, which, Mr. Rice said, showed it to be in excellent condition. The report is to be verified by The Audit Co., and will then be issued to the stockholders.

=The Consolidated Rubber Tire Co. (New York) have filed papers of incorporation under the laws of Illinois, with $28,000 capital invested in their business in that state, and also in Missouri, where they have $5698 invested. Headquarters will be conducted in Chicago and St. Louis.

=The sale in South America of the Kelly-Springfield vehicle tires, controlled by the Consolidated Rubber Tire Co. (New York), belongs to the Mumford Rubber Tire Co., of Atlanta, Ga., who are licensed by the company first named.

COLONEL PERKINS GIVES A PARK TO AKRON.

COLONEL GEORGE T. PERKINS, president of The B. F. Goodrich Co., has donated to the city of Akron, Ohio, a tract of 77 acres for a park. The value is estimated at $128,000. The land lies in the southwest part of the city and is a part of the farm of the late Colonel Simon Perkins, father of the donor, and who was known as the "Father of Akron." The historic Portage path, an ancient Indian trail, and a boundary line of the Six Nations, also a boundary of the United States in the treaty of Fort McIntosh, intersects the tract. The new park is also the more interesting from the fact that the feet of John Brown, the famous abolitionist, often trod the land, he having been interested in the sheep business with Colonel Simon Perkins and having had the use of that part of the farm the park includes. Nearby stands the house he occupied, now used as a club house by the Portage Golf Club. The new park is intended especially as a playground for children, and has many natural advantages, including springs, ravines, and grassy slopes and trees. It is to be known as Perkins park.

LA CROSSE (WIS.) RUBBER MILLS CO.

THE directors, at their annual meeting, late in January, elected Albert Hirsheimer president, M. Funk vice president, Albert P. Funk secretary and treasurer, and George S. Andrus general manager. The company are planning a new building to accommodate an increase of 25 per cent. in their productive capacity.

MONARCH RUBBER CO. (ST. LOUIS.)

IT has been announced definitely that the rubber factory of this company—the first between the Mississippi river and the Pacific coast—will be in operation by March 1. Their samples and prices will be ready by April 1. A general line of rubber boots and shoes will be manufactured under the brands "Sunset," first quality, and "Prairie," second quality. It is stated that the capital stock is owned solely by the four officers: Harry E. Wagoner, president; William P. Hazard, vice president; Edward H. Gorse, treasurer; and William E. Hemenover, secretary.

NEW INCORPORATIONS.

THE Honduras Rubber and Trading Co., February 8, under New Jersey laws, to buy and sell India-rubber; capital, $125,000, with $1000 paid in. Incorporators: Samuel W. Barber, Haddonfield, Pa.; Charles E. Pearson, Westmont, Pa.; and Spencer Simpson, Camden, N. J.

=The Los Angeles Rubber Plantation Co., under California laws; capital, $55,000. Plantation located in the department of Palenke, state of Chiapas, Mexico. J. C. Kays, president; T. C. Paxton, vice-president; W. C. Durgin, secretary; Warren Gillelen, treasurer; J. S. Cannon, managing director; Julius Boordman, plantation director. Office: 407 Laughlin building, Los Angeles, Cal.

=Varney Rubber and Trading Co. (Los Angeles, Cal.), under California laws, to deal in real estate, tobacco, hardware, and rubber; capital, $50,000. Incorporators: C. S. Tallmadge, Jr., J. H. Graves, B. H. Dyer, F. A. Harlow, and others, of Los Angeles.

TRADE NEWS NOTES.

THE India Rubber Co. (Akron, Ohio) are reported by the local newspapers to have made an advance of 15 per cent. in the wages of their employés. The factory is very busy on tires and the number of employés is growing.

=Another former tire making concern passes out of existence with the transfer of the plant of the Overman Wheel Co. (Chicopee Falls, Mass.), who failed a year or two ago, to the Stevens Arms and Tool Co. It is given out that the Overman creditors probably will be paid in full.

=The Simplex Electrical Co. (Boston) supplied recently six miles of telephone cable, made up of ten pairs of conductors, to be laid across the straits of Mackinaw for the Michigan Telephone Co. It is described as the largest submarine telephone cable of its size ever laid. The contract was taken by the Western Electric Co. (Chicago), who in turn placed the order for the manufacture of the cable with the Simplex company.

=The Eastern Rubber Co. (Reading, Mass.), the incorporation of which, to manufacture mechanical goods, was reported in THE INDIA RUBBER WORLD December 1, 1898, have suspended operations.

=The first shipment of rubber shoes by the new Model Rubber Co. (Woonsocket, R. I.) was made on January 25, consisting of twenty-six cases.

=The United States Rubber Co. have introduced what they call the "Vacation" shoe. It is made of brown or white duck, and has a red sole, made extra heavy and flat, having no heel except the least spring at that point. The sole is made of pure gum and antimony.

=The Providence (R. I.) Rubber Shoe Co.—Mr. Bourn's factory—are reported to be busy on a good lot of orders for tennis shoes.

=The Lambertville (N. J.) Rubber Co. have improved their water supply by means of a pipe leading from the Delaware river, instead of depending as formerly on the irregular supply obtainable from the canal.

=The Raymond Rubber Co. (Titusville, N. J.), manufacturers of reclaimed rubber, have opened a New York office at No. 60 Broad street, their representation in the city being in the hands of Francis H. Robinson, crude rubber broker, at that address.

=Morgan & Wright, the Chicago tire manufacturers, have opened a New York branch at Nos. 214–216 West Forty-seventh street, in charge of W. C. Marvin, for the sale of their bicycle and solid carriage tires, tire cements, and other sundries. They have located in the "carriage district," to facilitate their sales of tires to this trade. The company have also a Boston depot, at No. 80 Batterymarch street, in charge of E. C. Potter.

=F. Haskell Smith, who for four years has been chemist with the Hartford Rubber Works Co., has left their employ to become superintendent of the rubber department of The Whitman & Barnes Manufacturing Co. (Akron, Ohio). Mr. Smith is a graduate of the Massachusetts Institute of Technology. John W. Ward, a well-known salesman of the Hartford Rubber Works Co., and proprietor of The Connecticut Rubber Co., of Hartford, Conn., has discontinued handling goods of their manufacture. He is now calling upon his friends and customers as representative of The Whitman & Barnes Manufacturing Co., with a very complete line of mechanical goods.

=Converse & Pike, Boston shoe jobbers, making a specialty of "Wales-Goodyear" goods, have removed their offices and store to larger quarters, at No. 218 Congress street, at the intersection of High. They also retain two floors at Nos. 220–222 Congress.

=The heading of a letter received from Joseph P. Earle, who was engaged in the crude rubber trade in New York from 1871 until a short time ago, is as follows:

DUCK COVE FARM.

JOSEPH P. EARLE, ESQ. C. D. MCGETTRICK, Manager.
Wickford, R. I.

="We Submit Our Case" is the title of a circular in which the Boston Belting Co. urge the desirability of making, using, buying, or selling the best goods that the market affords.

=The Fisk Rubber Co. (Chicopee Falls, Mass.) have arranged for distributing and repair shops for their cycle tires in Boston, New York, Philadelphia, Syracuse, Buffalo and Detroit.

=The tire department of The Whitman & Barnes Manufacturing Co. (Akron, Ohio) has been placed in the hands of H. S. Firestone, formerly of the Firestone Rubber Tire Co. (Chicago), now controlled by the Consolidated Rubber Tire Co.

=At the late annual meeting of The Canadian Rubber Co. of Montreal, H. Markland Molson was appointed a director in place of the late Hugh McLennan, and John J. McGill, who long has been the managing director, in place of the late Francis Scholes.

=John A. Blaurock, of the International Automobile and Vehicle Tire Co., sailed from New York on February 10 for Paris, where his headquarters will be for several months. It is understood that he will negotiate, while in Europe, for the sale of the foreign rights under the vehicle tire patents in which he is interested.

=The demand for golf balls from the Scottish factories is described as having been very brisk of late. During three months ended December 31 last the declared exports of golf goods (including balls) from Dundee to the United States alone amounted in value to $826,555.

=There has been some trading of late in shares of the American Chicle Co. On January 29 there were curbstone sales in New York at 51 for the common and 80 for the preferred.

=John L. Knott, manager of the sales of the United States Rubber Co.'s European depot (47, Farringdon street, London), sailed from New York on February 10, after spending several weeks in the States.

=The Raymond Rubber Co. (Titusville, N. J.) have favored their customers lately with a handsome souvenir steel letter opener, with celluloid handle.

=Referring to the announcement that the Monarch Rubber Co. will engage in making rubber shoes at St. Louis, in order the more conveniently to supply the trade of that section, the St. Paul *Trade Journal* suggests that St. Paul, for climatic reasons, is a better field for such an industry than St. Louis. Without reference to any given concern or locality, the *Shoe and Leather Reporter* (New York) editorially suggests the possibility of more rubber shoe concerns entering the field than can find business to do at a profit.

=The Diamond Rubber Co. (Akron, Ohio) have opened headquarters for their eastern trade in cycle and motor tires at No. 127 Duane street, New York.

=At Washington on February 6 the House committee on commerce heard representatives of American cable concerns in advocacy of a provision in the Pacific cable bill that the cables be of American manufacture. Messrs. Satterlee, of New York, and Marsh and Hughes, of Pittsburgh, in behalf of large cable interests, stated that the facilities in this country were ample for turning out all the cable required for the Pacific project.

=The Clark Cycle Tire Co. (Boston) have appointed as their western agents the Wellington Wheel Works, No. 35 Randolph street, Chicago.

=Work has progressed rapidly on the Apsley boot and shoe factory at Hudson, Mass., which will be the largest building in the town. The smokestack, 80 feet high, is in position and the contractors expected to have the roof up by this time.

=A shipment of a carload of rubber scrap from Carthage, Mo., by A. Cutsinger, is mentioned as the largest ever made from southwest Missouri. It was valued at about $2500.

=At a meeting of stockholders of the Millay Last Co. (Hudson, Mass.), on February 7, it was voted to transfer the capital stock to L. D. Apsley, president of the Apsley Rubber Co., and to dissolve the Millay corporation. The business was founded in 1859 by the Messrs. Millay, and incorporated July 6, 1893. The stock has been held lately by Mr. Apsley, H. C. Norton, and C. F. Hamilton.

=The Diamond Rubber Co. (Akron, Ohio) are issuing a new and revised set of pure stock samples, about which they invite correspondence with the trade, particularly with regard to prices.

=Ernest L. Baldwin, who for several years has been New York manager for the Empire Rubber Manufacturing Co., has been appointed general sales manager for the company, with headquarters at Trenton, N. J.

=The Boston Rubber Co. of Montreal, Limited, have made an arrangement with the John McPherson Co., Limited, of Hamilton, whereby the latter become sole agents for the Boston goods in Ontario. Five travelers will be put upon the road, besides which these goods will be kept in stock at the McPherson company's branch house, No. 69 Front street, west, Toronto.

=In relation to the Boston commission firm of J. H. Stedman & Co., it may be mentioned that their Mr. J. H. Stedman was for some time Eastern agent for the Philadelphia Rubber Works, in which capacity he had exceptional opportunities for meeting the trade throughout the country, and the experience which he thus acquired is of great value to his firm in their present business of buying and selling high grade rubber scrap.

INDIVIDUAL MENTION.

MR. M. H. LEWIS, general manager of the Mexican Gulf Agricultural Co., and Miss Jennie Nicholas Smith, of Kansas City, Mo., were married in that city on January 9. Mr. and Mrs. Lewis will make their home in Kansas City, but will spend part of each year on the Dos Rios coffee and rubber plantations.

=George Schlosser, the late superintendent of The National India Rubber Co. (Bristol, R. I.), on leaving for Hudson, Mass., to join the Apsley Rubber Co., was the recipient of a valuable silver service presented by the employés of the former mill.

=Albert Randolph, of Boston, who was engaged in the India-rubber trade for many years, was reported missing from a steamer on which he took passage on February 12 at New York, bound for Boston. He was supposed to have committed suicide, but no further facts have developed in the case.

THE DECLINE IN RUBBER SHARES.

DURING the week ended February 16, during which there were sales of 13,285 shares, United States common ranged between 37⅝ and 30, the highest figure since January 1 having been 44. Preferred shares, with sales of 5413, touched 93⅜ as the lowest figure. The first marked decline was coincident with published reports of poor weather for the sale of rubber shoes and of the shutting down of factories.

The New York *Times* on February 20 reported: "United States Rubber, which last week was under pressure, yesterday was in much better demand by purchasers, with the result that both the common and preferred stocks scored gains. The fact that weather conditions had changed, bringing about a greater demand for the products of the company, was given as a partial reason for the advance, but the true explanation seems to lie in the fact that the bear interest in the stocks is very large, and yesterday there developed a scarcity of stock."

The Boston *Journal* of February 18 reported: "The recent decline in the price of the Rubber stocks is now attributed largely to the operations of a small bear pool which is now believed to have covered its outstanding contracts. The falling off in the company's business furnished the pool with its ammunition."

It has been pointed out in other quarters that the condition of the demand for rubber footwear for the present season has developed too late in the season to affect unfavorably the business showing of the United States company for the current fiscal year, orders for their goods having been filled months ago to an extent which insures good profits for the year.

The Boston *Herald* having described the present as "the dullest year in the rubber trade in a decade," a rubber man writes to that paper: "Knowing that you would not wish to create a wrong impression in the minds of the public, I beg to point out to you that the shutdown among the rubber factories, owing to the unusual season, is confined exclusively to the rubber boot and shoe trade. The statement, while being quite true, if confined to that particular branch of the industry, is quite contrary with the rubber trade in general. The factories making general lines of rubber goods, such as belting, hose, packing, tires, etc., etc., have never been as generally busy as they are to-day, and there never has been in the experience of the general rubber trade such an abundance of orders, necessitating a large number of the plants running overtime, and all of them are crowded with orders."

ADDITIONAL EUROPEAN NOTES.

THE works of B. Birnbaum & Sons, Limited, near London, were visited on January 25 by the Chinese minister to Great Britain, Sir Chichen Lofengluh, with his sons and official suite, together with some other eminent persons, who were first shown over the works and then entertained at luncheon by the Messrs. Birnbaum. About 1000 hands are employed in the manufacture of waterproof goods.

=The Vereinigte Gummiwaaren-Fabriken Harburg-Wein have opened a branch house in Berlin for the sale of their products.

=The North British Rubber Co., Limited (Edinburgh), have advanced prices as follows: On sheet rubber, valves, etc., at 5*s.* per pound and upwards, 10 per cent., and under 5*s.* per pound, 5 per cent.; belting, hose, packing, etc., 5 per cent. The Clyde Rubber Works Co., Limited (Glasgow), have also announced an advance of 10 per cent.

=The first cable ship to be owned in Germany is the *Podbielski*, launched lately at Glasgow, for the Norddeutsche Seekabelwerke Aktiengesellschaft (Cologne), and named for the head of the German postal and telegraph administration.

=Joseph Thomas Wicks, India-rubber expert and factory manager, who for nearly two years past has been occupied in putting into going order at Birmingham, England, a new factory for the Dunlop Pneumatic Tyre Co., Limited, has retired from that connection, with a view, it is understood, to exploiting certain improvements in rubber manufacturing which he has invented.

BUY GOOD RUBBERS.—There is no question that poor rubbers often drive away trade from a shoe store. People who buy poor rubbers do not stop to reflect that they got them at a low figure, but if they break out after being worn once or twice they feel as though they had been cheated, and are likely to transfer their shoe trade to another store. It is a question if it is not always better to keep on the safe side by selling only the established brands of rubbers, that have been well tried and are of approved quality.

SOME GERMAN VIEWS ON RUBBER.

CARLOS VON MERKATZ, described as a native of Germany who has had twenty-three years experience as a merchant and engineer in the Amazon valley, writes from Pará to the *Gummi-Zeitung* in an enthusiastic vein regarding the profits possible from acquiring and exploiting rubber estates in that country. He figures that an estate including 400 *estradas* (of 100 to 150 rubber trees each), will require an expenditure of only about $100,000, including cost of title. The cost of supervision and labor would be about $75,000, or a total of $175,000. The product would be at least 3 kilograms per day for each *estrada*, which, for 150 working days in a year 180,000 kilograms, worth $1 per kilogram, or $180,000. Deducting 25 per cent. for contingencies, loss in exchange, etc., would leave $135,000 as the first year's return on an investment of $175,000.

"Germany," he writes, "although consuming a very large quantity of rubber, imports very little direct, but buys from second and third hands. Germany will do itself much harm if in the near future its attention is not diverted to the Amazon district, where all other nations battle for the possession of rubber plantations. The export from Germany to this country is very great—more than that of all other nations—and it should be within easy reach to cover its own requirements of rubber by the purchase of rubber plantations." [It will be noted that this writer does not offer any details to substantiate his estimates.—THE EDITOR.]

The editor of the *Gummi-Zeitung* comments on the letter as follows: "No doubt exists in our mind that this writer views his subject in rather a rosy light; nevertheless, he points to a fact which should not be left unconsidered. Why should it not be possible to make the German rubber industry, in respect to covering its requirements in crude rubber, more independent than it now is? The incentive hitherto has existed in rather indefinite form, but beyond doubt energetic combined efforts will finally lead to an improvement on present conditions. Hamburg should acquire quite a different status as a rubber market from what it has at present, when a greater part of the Continental consumption of rubber is dependent for raw material upon foreign markets. This can be possible only if those who are interested in the German rubber trade will pay more attention to the production of rubber, or at least will buy rubber direct from the producing countries. All other countries are leading us in this respect. In Germany, although the rubber industry has taken a position of the first rank, nothing of importance has been done with respect to controlling the supply of raw material. What is the cause? Do we lack enterprise? Is the subject not of enough importance? How other countries proceed in this matter is shown by the recent purchase of lands in Borneo by a Russo-American company. Shall Germany wait until the best locations have been taken?"

THE tendency toward smaller sizes in single tube tires seems to *The Bicycling World* likely to go too far. Last year the 1¾ inch tires were in the greatest demand, while it appears that the 1900 trade will want more of 1⅜ inch size. The *World* advises dealers, not exactly to try and stop the tendency, but at least not to help it along.

A NEW YORK jobber is reported to have placed an order for more than 36,000 pairs of single tube tires with one of the large rubber concerns, when the increase in prices due to the Tillinghast agreement was just in sight, and he is mentioned as being "in a position to make things interesting" in the way of meeting competition.

REVIEW OF THE CRUDE RUBBER MARKET.

THERE was a sudden and decided decline in the prices of Pará rubber just after the middle of February, due to a combination of circumstances, one of which was the effect upon foreign markets of reports of a declining consumption in the United States in connection with the shutting down of several large rubber shoe factories. The situation happened to be favorable for such reports to gain strength, owing to the fairly liberal stocks in first hands at Pará and elsewhere, and the possibility of large arrivals coming from up the Amazon during the remainder of the year, to offset the rather limited movement of some of the earlier months. There was early developed, however, an upward tendency, since which time the markets here and elsewhere have been more or less fluctuating and uncertain.

While it is true that the rubber shoe factories have been less active during a few weeks past than in some former years, and some are completely idle, it must be remembered that this is the season, at the end of the business year in the rubber shoe industry, when it is customary for the mills to close. Another fact to be considered is that, despite the steady growth in the production of rubber footwear, this branch has no less steadily declined in relative importance as a department of the rubber industry in the United States, or taking the world as a whole. Simultaneously with the decline in the consumption of rubber for footwear, accented to some extent this year by an almost unprecedentedly open winter, statements come to hand of increased activity in all other branches of the trade. It is hardly possible that the extent of consumption of crude rubber in the manufacture of boots and shoes can ever again exert such an influence upon the prices of rubber for any considerable length of time as was the case twenty, or even ten, years ago. The production of tires and of insulated wire has become too important for this to happen, to say nothing of a large and steady growth in the general mechanical lines.

Nor does the size of stocks in any particular market at any given time influence prices beyond a mere temporary period. Not even in the early months of 1899, when the receipts at Pará were far larger than were ever known before during the same months, was there any resulting decline in prices, although there was not at the time any special increase in the consuming demand. It was recognized in the trade that the heavy output of Pará rubber for February only represented delayed shipments, and that it did not necessarily imply an increase in the year's production. The fact is that, instead of there being a decline, prices actually advanced while the stocks in first hands were at the highest point. There are no such stocks now existing, and no such stocks in prospect, as were in sight twelve months ago; hence the consumer has little reason to hope for an important or long continued decline in rubber prices as a result of any quantity of the crude material which can be put upon the market. There is still less reason for hoping for such decline in view of the fact that the Pará rubber season is now so far advanced.

Prices on Africans are also lower.

The latest quotations in the New York market are:

PARÁ.		**AFRICAN.**	
Islands, fine, new	104 @105	Tongues	64 @65
Islands, fine, old	106 @107	Sierra Leone	54 @84
Upriver, fine, new	105 @106	Benguella	75 @76
Upriver, fine, old	108 @109	Congo ball	65 @66
Islands, coarse, new	61 @62	Cameroon ball	65 @66
Islands, coarse, old	none here	Flake and lumps	48 @52
Upriver, coarse, new	79 @80	Accra flake	21 @22
Upriver, coarse, old	83 @84	Accra buttons	69 @70
Caucho (Peruvian) sheet	63 @64	Accra strips	73 @74
Caucho (Peruvian) strip	none imported now.	Lagos buttons	68 @69
Caucho (Peruvian) ball	76 @77	Lagos strips	68 @69
CENTRALS.		Liberian flake	@
Esmeralda, sausage	74 @75	Madagascar, pinky	84 @85
Guayaquil, strip	62 @63	Madagascar, black	60 @62
Nicaragua, scrap	70 @71	**GUTTA-PERCHA.**	
Mangabeira, sheet	59 @60	Fine grade	1.75
EAST INDIAN.		Medium	1.45
Assam	79 @82	Hard white	1.20
Borneo	39 @54	Lower sorts	65
		Balata	

Late Pará cables quote:

	Per Kilo		Per Kilo.
Islands, fine	9$800	Upriver, fine	11$000
Islands, coarse	4$500	Upriver, coarse	7$200

Exchange 8⅛*d.*

NEW YORK RUBBER PRICES FOR DECEMBER (NEW RUBBER.)

	1899.	1898.	1897.
Upriver, fine	1.08 @1.10	96 @98	83 @87
Upriver, coarse	86 @ 90	85½@88	59 @63
Islands, fine	1.05½@1.08	90 @94	80 @84
Islands, coarse	65 @ 69	65 @69	49 @52½
Cameta, coarse	66 @ 70	66½@70	57 @59

NEW YORK RUBBER PRICES FOR JANUARY. (NEW RUBBER.)

	1900.	1899.	1898.
Upriver fine	1.08 @1.10	96 @1.04	84 @90
Upriver coarse	84 @ 87	86 @ 93	62 @70
Islands fine	1.05 @1.08	93 @1.01	82 @87½
Islands coarse	64 @ 66	67 @ 72	53 @60
Cametá coarse	65 @ 69	69 @ 75	57 @61½

In regard to the financial situation, Albert B. Beers, broker in India-rubber (No. 58 William street, New York), advises us:

"During February the money market has ruled fairly steady as far as commercial paper is concerned, there being a moderate demand for the best rubber names at 4½@5 per cent., and 5½@6 per cent. for those not so well known, with some transactions even higher."

STATISTICS OF PARA RUBBER (METRIC TONS).

NEW YORK.

	Fine and Medium.	Coarse.	Totals. 1900.	Totals. 1899.	Totals. 1898.
Stocks, January 1	352	58 =	410	298	404
Arrivals, January	1152	555 =	1707	1585	1303
Aggregating	1504	613 =	2117	1883	1707
Deliveries, January	950	511 =	1461	1533	1389
Stocks, January 31	554	102 =	656	350	318

	PARÁ.			ENGLAND.		
	1900.	1899.	1898.	1900.	1899.	1898.
Stocks, January 1	580	660	535	440	885	470
Arrivals, January	3620	2985	3310	610	690	1447
Aggregating	4200	3645	3845	1050	1575	1917
Deliveries, January	2760	2636	2705	600	775	1225
Stocks, Jan. 31	1440	1009	1140	450	800	692

	1900.	1899.	1898.
World's supply, Jan. 31 (excluding Caucho)	4219	3284	3506
Pará receipts, July 1 to January 31	11,085	14,215	14,750
Afloat from Pará to United States, Jan. 31	474	—	—
Afloat from Pará to Europe, January 31	1199		

A mail advice from Pará dated February 6 reports: "Not only the continuation of large supplies, but much more so the excessive scarcity of money with its subsequent advance of exchange have lately exercised a most damaging influence on the course of business. Transactions have been almost suspended for want of money, and in the meantime stocks have considerably increased, consisting now of about 850 tons in first hands. Holders at first made a firm stand against adapting their pretensions to the higher exchange, but, although still firm, they are showing themselves more tractable now."

RUBBER EXPORTS FROM PARA.

THE table which follows, supplied by the courtesy of Reimers & Co. (New York), gives the amount of crude India rubber exported by the various firms at Manáos and Pará, during the calendar year 1899, the figures expressing pounds:

EXPORTERS.	To United States.	To Europe.	Total Exported.
Cmok, Prüsse & Co*	7,678,105	6,250,416	13,928,521
Adelbert H. Alden	8,542,613	1,623,600	10,166,213
Frank Da Costa & Co.	4,372,052	3,351,508	7,723,560
Sears Pará Rubber Co.	5,083,307	.....	5,083,307
Rud. Zietz	887,836	2,715,595	3,603,431
Witt & Co.	1,463,444	1,130,150	2,593,594
Marius & Levy	66,563	2,071,969	2,138,532
Denis Crouan & Co.	703,622	413,302	1,116,924
Mello & Co.	112,284	924,051	1,036,335
R. Suarez & Co.	1,622	816,286	817,908
J. H. Andresen (Succ.)	49,026	691,307	740,333
Lajeunesse & Co.	94,645	497,426	592,071
H. A. Astlett	468,325	.....	468,325
B. A. Antunes & Co.	78,159	371,191	449,350
Kahn, Polack & Co	... ..	443,521	443,521
Henry Airlie & Co.	233,323	176,037	409,360
Singlehurst, Brocklehurst & Co.	179,174	187,036	366,210
Sundry small shippers	582,023	1,827,192	2,409,215
From Iquitos direct	.....	1,976,267	1,976,267
Stock in first hands	.. ...	.....	.....
Total	30,596,123	25,466,854	56,062,977

[* Representing Reimers & Co., New York and Boston, and Heilbut, Symons & Co., London and Liverpool.]

RECAPITULATION OF EXPORTS.

YEAR.	To United States.	To Europe.	Total Exported.	Stock Dec. 31.
1899	30,596,123	25,466,854	56,062,977	1,986,343
1898	21,671,801	26,628,790	48,300,591	2,945,346
1897	25,612,369	24,057,665	49,670,034	2,078,372
1896	19,941,596	27,681,888	47,623,484	2,341,284
1895	24,804,854	20,983,759	45,788,613	1,514,920
1894	23,062,386	19,869,306	42,931,692	1,865,091

THE LONDON RUBBER MARKET.

JACKSON & TILL, under date of February 2, report:

Pará. The reduced prices for fine Pará forward have brought in buyers and a good business has been done at 4/7 down to 4/6½, closing with buyers at 4/6¼; spot steady, nominally 4/8; Cameta lower, sales at 2/10½, 2/10, and now perhaps 2/9¼ might be accepted; Island and scrappy neglected, prices nominal. The large receipts in Pará for January are responsible for most of the fall, the crop for the first seven months showing an increase of 500 tons over the same period last season, while the deliveries in the United States have fallen off for December and January. The estimated receipts in Pará this month are 3800 to 4000 tons against 4700 tons for February, 1899. At the auction to-day not much offered, mostly retired except Central American, which was all disposed of at ½*d.*@1*d.* reduction on last week's prices.

LIVERPOOL.

WILLIAM WRIGHT & CO. reported February 1: "In the early part of January there was a sharp advance [in fine Pará], based mainly on bad crop accounts, from 4*s.* 6¼*d.* to 4*s.* 9*d.* Since then there have been large arrivals of Upriver at Pará;

this, coupled with a withdrawal of buying orders, and a consequent accumulation of stock (800 tons), has depressed the Liverpool market, and sales have been made for delivery at 4*s.* 7*d.* This has been done with a view to force holders in Pará to accept lower rates. So far it has had little effect, and it is simply a question whether buyers or sellers can hold out the longest; we incline to the opinion that both may have to give way a little. Receipts for January will be in excess of last year, but consumers must bear in mind that there is not much chance of the record receipts of February, 1899, being repeated this year. Reviewing the situation as a whole, we are inclined to believe that while there may be a further slight reduction in prices, the state of trade will prevent any serious decline, and, at the present stage of the crop, manufacturers would do well not to entirely neglect present rates."

ROTTERDAM RUBBER STATISTICS FOR 1899.

[*Supplied by* WEISE & CO.]

INDIA RUBBER ARRIVALS (KILOGRAMS)

Thimbles, red	170,000	Java and Sumatra	19,700
Thimbles, black	31,300	Borneo	21,400
Congo ball	28,500	All other	4,950
Kassai, red	43,850		
Kassai, black	15,150	Total, 1899	804,750
Upper Congo	316,500	Total, 1898	656,400
Sierra Leone	122,700	Total, 1897	705,650
Mozambique	30,700		

	1900.	1899.	1898.
Stocks, January 1	38,900	36,100	80,200

BALATA ARRIVALS (KILOGRAMS.)

	1899.	1898.	1897.
Surinam sheet	95,250	76,800	153,350
Venezuela sheet	52,200	158,800	73,000
Total	147,450	238,600	226,350
Stocks, end of year	5,000	.....	60,000

GUTTA-PERCHA (TONS.)

	1899.	1898.	1897.
Stocks beginning of year	180	130	
Arrivals during year	495	265	
Aggregating	675	395	322
Sales during year	368	215	192
Stocks end of year	307	180	130

LIVERPOOL AND LONDON.

Stocks of rubber on December 31, 1899, were classified by William Wright & Co. (Liverpool) as follows:

LIVERPOOL.		LONDON.	
Para, first hands	290	East Indian	304
Para, second hands	150	Madagascar	46
Peruvian	35	Mozambique	46
Ceará and Pernambuco	53	West India (Mattogrosso, Colombia, etc.)	242
Maniçoba	40		
Mangabeira	13	Total, 1899	638
African	576	Total, 1898	624
Total, 1899	1,157	Total, 1897	298
Total, 1898	1,491	Total, 1896	344
Total, 1897	1,066		
Total, 1896	1,072		

The total estimated imports of all descriptions into Liverpool during 1899 were 15,007 tons and into London 2806 tons —a total of 17,813 tons, against 20,324 tons in 1898, 16,680 tons in 1897, and 18,295 tons in 1896.

THE ANTWERP RUBBER MARKET.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At to-day's auctions 223 tons of rubber were sold, out of 335 offered, mostly Congo sorts. Prices were very irregular. Whereas fine red Kassai and a lot of fine Upper Congo-Equateur brought full prices, the white grades, generally taken for the United States, such as Mongalla and Lapori, were neglected, and only found buyers at a decline of 3 to 5 per cent. below valuations. Sixty tons of Lopori were sold and 36 tons withdrawn. The average decline from valuations, as compared with the last preceding sale, amounted to 3 per cent. The next sale will take place on February 13, when 183 tons will be offered.

C. SCHMID & CO.

Antwerp, February 3, 1900.

ANTWERP RUBBER STATISTICS FOR JANUARY.

DETAILS.	1900.	1899.	1898.	1897.	1896.
Stocks, Jan. 1...kilos	291,991	263,340	94,463	139,628	88,854
Arrivals, January	475,880	285,833	87,337	125,311	43,621
Aggregating	767,871	549,173	181,800	264,939	132,475
Sales in January	225,773	250,662	90,096	144,486	60,877
Stocks, January 31	542,098	298,511	91,704	120,453	71,598
Arrivals since Jan. 1	475,880	285,833	87,337	125,311	43,621
Sales since January 1	225,773	250,662	90,096	144,486	60,877

IMPORTS FROM PARA AT NEW YORK.

[*All Figures Denote Pounds.*]

January 29.—By the steamer *Camateuse*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Reimers & Co.	123,200	24,200	93,300	7,700=	248,400
Crude Rubber Co.	123,500	34,300	51,200	1,400=	210,400
New York Commercial Co.	89,400	23,400	74,300	.... =	187,100
Boston Rubber Shoe Co.	63,100	9,000	32,900	15,100=	120,100
Albert T. Morse & Co.	44,300	7,500	24,500	.....=	76,300
Lawrence Johnson & Co.	30,700	5,100	6,100	....=	41,900
Otto G. Mayer & Co.	22,600	5,300	4,200	.....=	32,100
George G. Cowl	10,700	1,800	2,400	.....=	14,900
Edmund Reeks & Co.	7,300	2,700	3,500	.....=	13,500
Total	514,800	113,300	292,400	24,200=	944,700

February 7.—By the steamer *Dominic*, from Manáos and Pará:

Reimers & Co.	113,500	39,900	78,400	24,300=	256,100
Crude Rubber Co.	147,500	26,800	46,200	900=	221,400
Boston Rubber Shoe Co.	80,600	15,100	25,200	36,700=	157,600
New York Commercial Co.	73,200	9,300	62,800	6,400=	151,700
Albert T. Morse & Co.	20,200	4,400	66,600	2,400=	93,600
Otto G. Mayer & Co.	25,800	4,600	46,100	.....=	76,500
Lawrence Johnson & Co.	12,000	1,900	9,500	.....=	23,400
Edmund Reeks & Co.	4,300	700	700	.....=	5,700
George G. Cowl	3,600	400	500	.....=	4,500
G. Amsinck & Co.	3,200	300	...	.....=	3,500
Total	483,900	103,400	336,000	70,700=	994,000

February 19.—By the steamer *Sobraleuse*, from Manáos and Pará:

New York Commercial Co.	240,700	49,800	105,100	3,600=	399,200
Crude Rubber Co.	118,000	19,200	46,800	300=	184,300
Boston Rubber Shoe Co.	77,800	15,000	26,200	52,500=	171,500
Reimers & Co.	47,100	16,800	68,500	10,400=	142,800
Albert T. Morse & Co.	46,000	16,300	66,900	.....=	129,200
Otto G. Mayer & Co.	41,400	8,400	7,800	.....=	57,600
George G. Cowl	12,100	2,200	1,600	.....=	15,900
Edmund Reeks & Co.	6,800	1,100	700	.....=	8,600
G. Amsinck & Co.	1,000	900	1,400	.....=	3,300
Total	590,900	129,700	325,000	66,800=	1,112,400

NOTE.—The *Hildebrand*, from Manáos and Pará, with 460 tons of rubber on board, sailed from the latter city on February 16 for New York.

PARA RUBBER VIA EUROPE.

		POUNDS.
FEB. 3.—By the *Germanic*=Liverpool:		
William Wright & Co. (Coarse)	12,600	
Reimers & Meyer (Fine)	15,000	27,600
FEB. 3.—By the *Lucania*=Liverpool:		
Reimers & Meyer (Fine)	11,200	
Livesey & Co. (Coarse)	11,000	22,200
FEB. 5.—By the *La Champagne*=Havre:		
Albert T. Morse & Co. (Fine)		6,500
FEB. 14.—By the *Bovic*=Liverpool:		
Reimers & Co. (Fine)		15,000

OTHER IMPORTS AT NEW YORK.

CENTRALS.

	POUNDS.	
JAN. 25.—By the *Teutonic*=Liverpool:		
Reimers & Co.	1,100	
Livesey & Co.	4,800	
Otto G. Mayer & Co.	2,500	8,400
JAN. 26.—By the *Orizaba*=Mexico:		
H. Marquardt & Co.	4,000	
Graham Hinckley & Co.	1,700	
Thebaud Brothers	2,000	
P. Harmony Nephews & Co.	800	
Flint, Eddy & Co.	500	11,000
JAN. 26.—By the *Lisbonense*=Ceará:		
G. Amsinck & Co.		83,000
JAN. 29.—By the *Palatia*=Hamburg:		
Reimers & Co.		6,400
JAN. 30.—By the *Louisiana*=New Orleans:		
Albert T. Morse & Co.	8,060	
A. S. Lascellas & Co.	1,500	9,560
JAN. 30.—By the *Alene*=Greytown:		
A. P. Strout	10,000	
Guiterman, Rosenfeld & Co.	3,000	
G. Amsinck & Co.	3,000	
A. D. Straus & Co.	1,700	
Kunhardt & Co.	1,000	
Samper & Co.	1,000	
For Antwerp	2,500	22,200
JAN. 31.—By the *Athos*=Colon:		
Hirzel, Feltman & Co.	16,100	
Dumarest & Co.	6,700	
Crude Rubber Co.	4,700	
Roldan & Van Sickel	4,400	
Czarnikow, McDougal & Co.	4,400	
A. Santos & Co.	4,000	
Frame, Alston & Co.	2,300	
Flint, Eddy & Co.	2,200	
G. Amsinck & Co.	2,200	
W. R. Grace & Co.	1,600	
Otto Gerdan	1,400	
Lawrence Johnson & Co.	800	
Samper & Co.	800	
D. N. Carrington & Co.	800	
Nuess, Hesslein & Co.	500	52,900
FEB. 1.—By the *El Paso*=New Orleans:		
Albert T. Morse & Co.		5,300
FEB. 2.—By the *Hansa*=Cape Gracias.		
Eggers & Heinlein	22,000	
G. Amsinck & Co.	12,500	
Jimenez & Escobar	2,000	
Samper & Co.	1,000	
Meyer & Lange	1,000	
A. S. Lascellas & Co.	300	38,800
FEB. 2.—By the *Seneca*=Mexico:		
H. Marquardt & Co.	3,500	
Tibbals & Blossom	1,500	
F. Probst & Co.	800	
Thebaud Bros.	300	6,100
FEB. 3.—By the *Lucania*=Liverpool:		
Reimers & Co.	17,000	
A. G. Mayer & Co.	4,300	
Livesey & Co.	2,000	23,300
FEB. 6.—By the *El Norte*=New Orleans:		
Albert T. Morse & Co.	4,000	
W. R. Grace & Co.	2,500	6,500
FEB. 7.—By the *Alliance*=Colon:		
A. Santos & Co.	7,600	
G. Amsinck & Co.	6,500	
Kunhardt & Co.	4,200	
Hirzel Feltman & Co.	4,000	
Lanman & Kemp	4,000	
Roldan & Van Sickel	3,600	
D. A. De Lima & Co.	3,400	
Flint, Eddy & Co.	3,100	
Isaac Brandon & Bros.	3,000	
J. Aparicio & Co.	2,700	
A. P. Strout	2,700	
Otto Gerdan	2,100	
W. Loaiza & Co.	1,700	
Dumarest & Co.	1,700	
D. N. Carrington & Co.	1,700	
Mecke & Co.	1,500	
Eggers & Heinlein	1,100	
Mosle Brothers	900	
Sundry small lots	2,500	57,900
FEB. 9.—By the *Yucatan*=Mexico:		
E. Steiger & Co.	3,000	
H. W. Peabody & Co.	2,500	
H. Marquardt & Co.	1,000	
Matherson & Co.	500	7,000
FEB. 13.—By the *Altai*=Greytown:		
A. P. Strout	11,000	
A. D. Straus & Co.	600	
Kunhardt & Co.	1,600	
Flint, Eddy & Co.	500	
For Havre, etc.	3,500	17,200
FEB. 14.—By the *Bovic*=Liverpool:		
Reimers & Co.	9,000	
William Wright & Co.	2,500	11,500
FEB. 15.—By the *Advance*=Colon:		
Isaac Brandon & Bros.	8,300	
Piza Nephews & Co.	2,100	
G. Amsinck & Co.	1,100	
Eggers & Heinlein	1,500	13,000
FEB. 15.—By the *El Cid*=New Orleans:		
Flint, Eddy & Co.	1,000	
Eggers & Heinlein	1,500	
Albert T. Morse & Co.	400	2,900
FEB. 16.—By the *Vigilancia*=Mexico:		
E. Steiger & Co.	4,000	
Graham, Hinckley & Co.	2,000	
Tibbals & Blossom	1,500	7,500
FEB. 19.—By the *Michigan*=London:		
Otto G. Mayer & Co.		3,500
FEB. 19.—By the *Louisiana*=New Orleans:		
Albert T. Morse & Co.		14,000
FEB. 19.—By the *Itaka*=Mexico:		
H. Marquardt & Co.	2,500	
Tibbals & Blossom	1,000	
Flint, Eddy & Co.	300	3,800
FEB. 21.—By the *Adirondack*=Cartagena:		
D. A. De Lima & Co.	10,000	
Flint, Eddy & Co.	3,000	
G. Amsinck & Co.	2,500	
Kunhardt & Co.	2,500	
Guiterman, Rosenfeld & Co.	1,500	
Roldan & Van Sickel	1,500	
John Boyd, Jr.	1,300	
Samper & Co.	200	22,500

AFRICANS.

	POUNDS.	
JAN. 25.—By the *Teutonic*=Liverpool:		
Reimers & Co.	14,000	
George A. Alden & Co.	13,000	
Crude Rubber Co.	12,000	
William Wright & Co.	20,000	
Otto G. Mayer & Co.	1,500	
Reimers & Meyer	1,500	62,000
JAN. 29.—By the *Palatia*=Hamburg:		
Livesey & Co.		6,000
JAN. 30.—By the *La Normandie*=Havre:		
Reimers & Co.		4,000
FEB. 2.—By the *Westernland*=Antwerp:		
Reimers & Co.		44,000
FEB. 3.—By the *Germanic*=Liverpool:		
William Wright & Co.	36,000	
A. T. Morse & Co.	18,000	
Crude Rubber Co.	2,500	56,500
FEB. 3.—By the *Lucania*=Liverpool:		
George A. Alden & Co.	36,000	
Crude Rubber Co.	36,000	
Reimers & Co.	38,000	
Otto G. Mayer & Co.	2,000	
William Wright & Co.	23,500	
Livesey & Co.	7,500	142,500
FEB. 5.—By the *St. Paul*=Southampton:		
A. T. Morse & Co.		8,500
FEB. 5.—By the *La Champagne*=Havre:		
Otto G. Mayer & Co.		24,000
FEB. 5.—By the *Patricia*=Hamburg:		
George A. Alden & Co.	9,000	
Livesey & Co.	3,000	12,000
FEB. 7.—By the *Peninsular*=Lisbon:		
George A. Alden & Co.	33,000	
Crude Rubber Co.	33,000	66,000
FEB. 7.—By the *Kensington*=Antwerp:		
George A. Alden & Co.	21,000	
Crude Rubber Co.	20,000	41,000
FEB. 8.—By the *Tauric*=Liverpool:		
George A. Alden & Co.	35,000	
Crude Rubber Co.	34,000	69,000
FEB. 10.—By the *Graf Waldersee*=Hamburg:		
Otto G. Mayer & Co.		16,500
FEB. 13.—By the *British King*=Antwerp:		
William Wright & Co.		5,500
FEB. 14.—By the *Bovic*=Liverpool:		
Reimers & Co.	38,000	
William Wright & Co.	5,000	
Albert T. Morse & Co.	10,000	
Reimers & Co. (Almeidina)	4,500	57,500
FEB. 14.—By the *Oceanic*=Liverpool:		
George A. Alden & Co.	19,000	
Crude Rubber Co.	18,000	
Livesey & Co.	2,500	39,500
FEB. 17.—By the *Campania*=Liverpool:		
George A. Alden & Co.	14,500	
Crude Rubber Co.	3,000	
Albert T. Morse & Co.	27,000	
Reimers & Co.	10,000	
William Wright & Co.	22,000	
Otto G. Mayer & Co.	4,500	
Livesey & Co.	3,500	104,500
FEB. 16.—By the *Archimede*=Genoa:		
George A. Alden & Co.		8,000
FEB. 19.—By the *Michigan*=London:		
George A. Alden & Co.	3,500	
Crude Rubber Co.	3,000	
Otto G. Mayer & Co.	4,000	10,500
FEB. 21.—By the *Friesland*=Antwerp:		
George A. Alden & Co.	62,000	
Crude Rubber Co.	61,000	
Reimers & Co.	45,000	
Otto G. Mayer & Co.	40,000	
Albert T. Morse & Co.	35,000	
William Wright & Co.	33,000	
Joseph Cantor	4,000	280,000

EAST INDIAN.

	POUNDS.	
FEB. 13.—By the *Afghanistan*=Singapore:		
D. P. Cruikshank	11,200	
George A. Alden & Co. (Pontianak)	162,000	
Reimers & Co. (Pontianak)	55,000	228,200
JAN. 26.—By the *St. Jerome*=Singapore:		
George A. Alden & Co. (Pontianak)	130,000	
William Wright & Co. (Pontianak)	105,000	235,000

GUTTA-PERCHA AND BALATA.

	POUNDS.	
JAN. 27.—By the *Manitou*=London:		
H. H. Smythe	6,500	
Lamb Manufacturing Co.	2,500	9,000
FEB. 5.—By the *Patricia*=Hamburg:		
George A. Alden & Co.		2,500
FEB. 13.—By the *Afghanistan*=Singapore:		
Geo. A. Alden & Co. (Gutta-percha)	2,500	
Reimers & Co (Gutta-percha)	5,000	7,500
FEB. 19.—By the *Michigan*=London:		
Lamb Manufacturing Co.		2,500
BALATA.		
FEB. 5.—By the *Grenada*=Trinidad:		
Middleton & Co.		1,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JANUARY.

Imports:	POUNDS.	VALUE.
India-rubber	5,331,136	$3,900,902
Gutta-percha	12,757	6,381
Gutta-jelatong (Pontianak)	1,362,810	37,312
Total.	6,706,703	$3,944,595
Exports:		
India-rubber	85,609	$62,787
Reclaimed rubber	142,166	20,643
Rubber Scrap Imported	1,404,689	$98,960

BOSTON IMPORTS.

	POUNDS.	
JAN. 2.—By the *Sagamore*=Liverpool:		
Livesey & Co. (Africans)	10,300	
Reimers & Meyer (Africans)	10,664	20,964
JAN. 3.—By the *Oakmore*=London:		
George A. Alden & Co. (African)	9,132	
Crude Rubber Co. (African)	10,000	19,132
JAN. 9.—By the *Bengalia*=Hamburg:		
Livesey & Co. (Centrals)		11,164
JAN. 29.—By the *Michigan*=Liverpool:		
George A. Alden & Co. (African)	5,372	
Crude Rubber Co. (African)	5,000	
Reimers & Meyer (African)	5,880	
JAN. 30.—By the *Sachem*=Liverpool:		
Reimers & Co. (African)	11,496	
Reimers & Co. (African)	18,200	29,696
JAN. 30.—By the *Barrowmore*=London:		
Crude Rubber Co. (African)	2,837	
George A. Alden Co. (African)	2,900	5,737
JAN. 15.—By the *Anglian*=London:		
Reimers & Co. (African)		2,692
JAN. 6.—By the *Halifax*=Halifax:		
		309
Total		105,946
Value		$69,329

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VALUE.
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37,312
$3,944,595

$62,787
20,643
$98,960

POUNDS.
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309
. 105,946
. $69,329

THE CULTURE OF INDIA-RUBBER AS AN INVESTMENT.

UNDOUBTEDLY many in the United States have been deterred heretofore from investing in this industry because of the comparatively long time required to bring a plantation of rubber trees to maturity; but as the opportunities in the United States for the profitable investment of a moderate sum of money grow gradually less, in these days of trust and combine, the investor begins to see the necessity of widening his field of operation, and there is probably no form of investment affording greater certainty of large profit than the cultivation of the varied products of the Tropics, especially in a land where investor and investment is surrounded by every encouragement and safeguard to be enjoyed in our own country.

The culture of India-rubber offers great inducements to capital because of the constantly growing demands for this product, the persistent destruction of the natural sources of supply, as well as the important fact that, once in bearing, the cultivated plantation of rubber is a continuous revenue producer for a period variously estimated at 50 to 100 years, requiring practically no expenditure for maintenance, while the annual returns will exceed those of any other industry requiring a like investment and affording the same degree of security to the investor.

"CASTILLOA ELASTICA" (RUBBER TREE OF MEXICO).
[Three years from seed; 6 inches diameter; 10 feet high. Plantacion Dos Rios.]

DEMAND AND SUPPLY.

It must be evident to those who have given the subject much thought that there is no likelihood of a falling off in the demand for rubber and rubber manufactures. It is equally evident that there is no probability of an increase in the supply of crude rubber from the natural forest sources sufficient to materially affect prevailing prices. Indeed, the fact that an increased importation to the United States of almost 10,000,000 pounds in the year 1897–98 over the preceding year was accompanied by an increase in price averaging 10 per cent. is sufficient evidence that the demand is more than keeping pace with the supply.

"CASTILLOA ELASTICA."

This variety of rubber tree has been the subject of much scientific investigation and experiment, and its cultivation is now generally conceded by authorities in such matters to be not only entirely practicable but very profitable as well. Mr. J. H. Hart, superintendent of the Royal Botanic Gardens, Island of Trinidad, in his annual report for 1898, comments as follows:

"*Castilloa*, under favorable conditions in Trinidad, makes rapid growth and is probably better suited to the climate than any other class of rubber, as it comes to maturity earlier and can be handled with a minimum of previous planting experience. Specimens of the rubber sent to England for valuation prove that our *Castilloa* trees are the best kind in cultivation. The large crop of seed now obtainable from *Castilloa* will make it possible at an early date to grow stems for the purpose of extracting rubber from them in their young state. Stems of a year old have been found to contain 8 per cent. of their dry weight in rubber, and this amount has been extracted in the laboratory."

REPUBLIC OF MEXICO.

The Isthmus of Tehuantepec is part of the natural habitat of the *Castilloa*, and rubber is still gathered there in large quantities despite destructive methods employed by the rubber gatherers. Mexico's export of crude rubber for the eleven months ending May 31, 1899, exceeded by 300,000 pounds, the total export of the preceding year. It is safe to presume that where a variety of tree thrives best in its wild state, there can its cultivation be brought to the greatest perfection.

TO INVESTORS.

It is our desire to bring this industry to the attention of business men capable of appreciating a business proposition. We have no scheme by which fortunes are made "while you wait," but a plain business enterprise to be accepted or rejected upon its own merits after due investigation. Six years of experience and more than $1,000,000 of our own money already invested in the enterprise have served to increase our faith.

Opportunity does not last always. The man who waits to be presented with a ready-made fortune requires staying qualities of the first order. He will wait some time.

We shall be glad to correspond with parties interested, and to afford every facility for thorough investigation. Our descriptive pamphlet, containing full particulars of our proposition, will be mailed you free of charge. It costs nothing to investigate.

MEXICAN TROPICAL PLANTERS COMPANY, KANSAS CITY, MISSOURI.

"NEARKID"

TRADE MARK.

THE SEAMLESS RUBBER CO.,

Sole Manufacturers,

NEW HAVEN, CONN.

RUBBER GLOVES.

Mention The India Rubber World when you write.

DAVOL RUBBER CO.,

MANUFACTURERS . . OF . . **FINE RUBBER GOODS.**

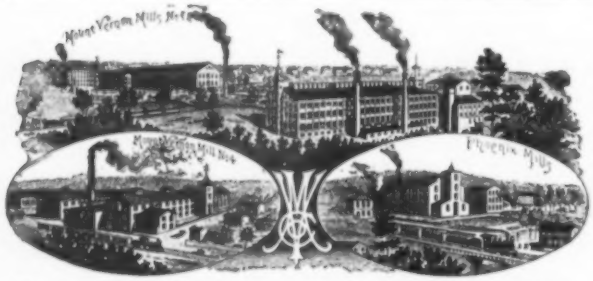
FOR THE DRUGGISTS', SURGICAL, AND STATIONERY TRADE.

MOULD WORK AND SPECIAL GOODS MADE TO ORDER.

JOSEPH DAVOL, President and Treasurer,
P. O. BOX 425.

Providence, R. I.

Mention the India Rubber World when you write.



MOUNT VERNON COMPANY,

ESTABLISHED 1848.

Manufacturers from the best quality of American Cotton of

COTTON DUCK

Of all numbers, weights and widths (3 to 120 ins.)
for every known purpose.

This Company has a Greater Capacity and does More Business than any other Cotton Duck Manufacturers in the World, and has always made a great specialty of

DUCK FOR BELTING, HOSE AND ALL KINDS OF MECHANICAL RUBBER GOODS.

Mention the India Rubber World when you write.

BALTIMORE, MD.

Established 1875.

WILEY'S Hygienic Wool-lined ALASKA Socks, for Rubber Boot, Chamber, Toilet and Hospital wear are the best for all dealers to handle.

Your jobber should handle them (most of them do) if not, send directly to us. Remember, we make **four** grades:—**Alaska, Brisco, Yukon and Denmark,** from the **best** to the cheapest. **$1.00** per **doz.** upward.

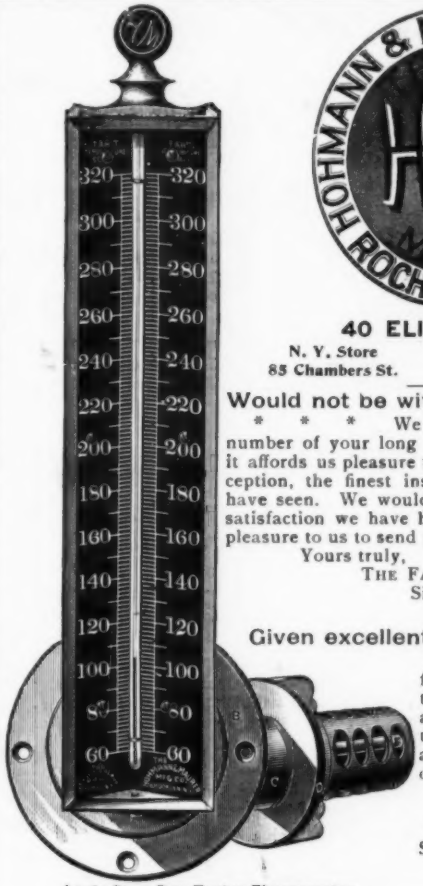
The dealer will make the largest and quickest sales by handling Wiley's as they have been advertised extensively. Order in time. Send for samples and prices.

Also manufacturers of Over Gaiters, Leggins, and Lambs' Wool Soles.

WM. H. WILEY & SON,

P. O. Box 37, HARTFORD, CONN.

Mention The India Rubber World when you write.



Angle Stem Dry Heater Thermometer.

HOHMANN & MAURER MFG. CO.
TRADE H & M MARK
ROCHESTER, N.Y.

40 ELIZABETH ST.

N. Y. Store, 85 Chambers St. — London Office, 106 Hatton Garden, E. C.

Would not be without them.

* * * We have in use on our heaters a number of your long stem angle thermometers, and it affords us pleasure to say that they are without exception, the finest instruments for the purpose we have seen. We would not be without them, and the satisfaction we have had from their use, makes it a pleasure to us to send you this endorsement.

Yours truly,
THE FAIRFIELD RUBBER CO.,
Signed—E. W. HARRAL, Pres,.
Fairfield, Conn.

Given excellent satisfaction.

* * * Replying to your favor of the 24th inst. would say that we take great pleasure in advising you that the improved thermometers furnished us about a year ago have given excellent satisfaction.

Yours truly,
NATIONAL INDIA RUBBER CO.,
Signed—GEO. SCHLOSSER, Supt.
Bristol, R. I.

SEND FOR CATALOGUE.

TYPKE & KING,

INDIA RUBBER CHEMISTS, ETC.

OFFICES, 7 JEFFREYS SQUARE, ST. MARY AXE, LONDON, ENG.

JOSEPH CANTOR, AGENT IN U. S.,

149-151 CHURCH ST., NEW YORK.

Between Warren and Chambers Sts.

FINE CHEMICALS FOR RUBBER WORKING,

GUARANTEED RELIABLE, AND NOT TO VARY.

COMPOUNDS FOR RESISTING OIL, ACID, ETC. FOR CYCLE TIRES, ETC.

PLUMBAGINE FOR OIL RESISTING VALVES.

RUBBER SUBSTITUTES,

MADE FROM REFINED RAPE SEED OIL. FREE FROM ACID.

CRIMSON & GOLDEN SULPHURET OF ANTIMONY

Mention The India Rubber World when you write.

GROWING USE OF RUBBER BANDS.—"Rubber bands have supplanted twine to a great extent in the last few years," observed a salesman in a drug store as he slipped a band around a 5 cent package of sodium bicarbonate. "Up to ten years ago rubber bands were seldom seen outside of a courthouse or a lawyer's office, and their use was confined almost exclusively to the filing of court documents and papers. Now you find them everywhere. Bands are used on all small packages in drug stores, and they have become an important factor in the grocery business. They answer the same purposes as twine, and are adjusted much easier."—*Philadelphia Record.*

IT WILL SAVE BUTTONS.—Among the late novelties in the rubber trade abroad is a wringing-machine whose rubber rolls are provided with transverse air-channels, filled with compressed air. Such rolls accommodate themselves to the uneven surfaces they come in contact with in the wringing of clothes.

THE Philippine islands have imported rubber goods to a sufficient extent for the customs officials to keep a record of them. In 1896 such imports were described as "sheets and tubing," 11,690 pounds; "manufactured forms of every kind," 6952 pounds. The total value is reported at $8731.

Machinery For Sale.

FOR SALE CHEAP.—Rubber washer and cracker, rolls 9 inches in diameter and 13 inches long. Address Cracker, care of THE INDIA RUBBER WORLD. (Sept)

Machinery Wanted.

WANTED.—One double speed stock calender 22×60. Two upper calenders 10×25. One sole calender 8×18. One rag and friction calender combined 18×48. Two washers 15×24. Eight mills 18×40. One cracker 16×30. All completed with pinions, pulley blocks and gears. Address, "Weiver," care of THE INDIA RUBBER WORLD. (Oct)

WANTED.—A second-hand vulcanizer 4 by 13 or thereabouts. It must be in good condition. Address W. E. M., care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—A good, second-hand single or double deck press about 30 inches square for bicycle tires. Address P. F. J., care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—A large lathe. Address "S.," care of THE INDIA RUBBER WORLD. (Sept)

Help Wanted.

WANTED.—Man thoroughly familiar with the manufacture of hard and soft rubber druggists' sundries. Complete practical knowledge of all processes desired. Give experience and all other particulars. Address, "Sedar," care of THE INDIA RUBBER WORLD. (Oct)

OPEN.—A good position for a competent man familiar with the manufacture of rubber covered wires. He must be a practical man, able to take entire charge and to handle men well. Only those wanting a permanent position need apply. Address J., care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—By wholesale house east of Chicago, a young or middle aged man of expepience in the mechanical, clothing, and drug sundry lines, to assist in correspondence, buying, and general office work. Address Success, care of THE INDIA RUBBER WORLD. (Sept)

Miscellaneous.

FOR SALE.—Rubber scrap, hose, old shoes and boots. Address, "Kerman's," care of THE INDIA RUBBER WORLD. (Oct)

WANTED.—Back numbers of the THE INDIA RUBBER WORLD to complete a file. Send a list of what you have and your price. H. C. H., care of THE INDIA RUBBER WORLD. (Oct)

. . SULO . .

The most ELASTIC rubber substitute yet discovered.

Absolutely free from Acids or Alkalies.
Has good wearing qualites.
Never deteriorates.
Always Uniform in Quality.
Is low in price.

SEND FOR SAMPLES AND PRICES.

GEO. R. MEEKER,

150 NASSAU ST., - NEW YORK.

Mention The India Rubber World when you write.

Positions Wanted.

SALESMAN.—Thoroughly competent and experienced salesman in mechanical rubber goods, will be open for engagement for next season. Has traveled Southern States for twelve years, for representative houses. No objection to change of territory. If South to be worked, prefer cheap and medium grades. Satisfactory references. Address "Competent," care of THE INDIA RUBBER WORLD. (Oct)

SITUATION WANTED.—Stenographer, typewriter and general office assistant, having 8 years' experience in the rubber business, desires position with large mercantile or manufacturing concern; thoroughly understands details of sale, collection and purchasing departments of both shoe and mechanical business. Can give best of references and furnish Remington No. 6 machine if desired. Address M. F. Reese, Setauket, N. Y. (Oct)

WANTED in New England or New York State, by woman with long experience in the rubber business, position as confidential clerk, or general office work. Familiar with costs, selling prices, credits, collections, and correspondence. At references. Address "Permanent," care of THE INDIA RUBBER WORLD. (Oct)

WANTED.—Thoroughly experienced salesman with best references, wants position in the east, covering bicycle, automobile and vehicle trades, on Tires. Address R. B. Abbott, 1208 Boyce Building, Chicago, Ill. (Oct)

SUPERINTENDENT of rubber reclaiming factory with 10 years' experience is looking for a change; understands wages values, the handling of employees, and all material matters connected with this branch of rubber works. As an office manager he is capable of successfully handling the largest factory. Address L. F., care of THE INDIA RUBBER WORLD. (Oct)

WANTED.—An expert stenographer, bookkeeper, and business woman who has had experience in rubber work wants a position. Address B. L., care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—A position as first-class rubber reclaimer by the acid process to reclaim old rubber boots, shoes, tires, and all kinds of rubber scrap. Address A. K. N., care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—Position with good rubber factory manufacturing mechanical goods and molded specialties by a man who has filled successfully the place of superintendent in such a factory. Has a thorough knowledge of compounding. Address J. K. L., care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—Position with a rubber concern making a good line of druggists' sundries, by an experienced man, with a good knowledge of compounds and also of manufacturing processes and factory management, and capable of filling the office of superintendent. Address Sundries Man, care of THE INDIA RUBBER WORLD. (Sept)

WANTED.—Young man of experience desires a position as superintendent. Understands thoroughly the manufacture of mechanical rubber goods, including bicycle and automobile tires, factory management, the compounding and matching of stocks, and the cost of goods. Can successfully handle a large business. Address X. M. T., care of THE INDIA RUBBER WORLD. (Sept)

Every Issue of

The Office Magazine

A. O. KITTREDGE, F.I.A., C.P.A., Editor

contains information on office topics

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A BUYERS' DIRECTORY
OF
The American Rubber Trade.

CLASSIFIED LIST OF LEADING MANUFACTURERS AND DEALERS IN INDIA RUBBER GOODS OF ALL CLASSES.

NOTICE.—The publishers of The India Rubber World exercise the closest scrutiny of the names given in this Directory, and none but reputable firms who are commercially and financially responsible are admitted. Purchasers at a distance or abroad, can therefore safely transact business with them by mail.

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Air Goods (Rubber).

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Cleveland Rubber Co., Cleveland, Ohio.
Davol Rubber Co., 16 Point Street, Providence, R. I.
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Empire Rubber Manufacturing Co., Trenton, N. J.
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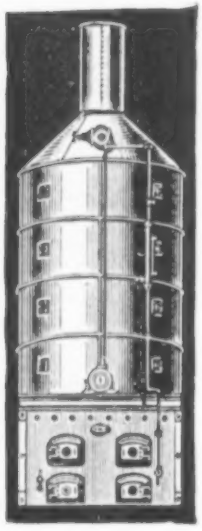

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PREPARED EXPRESSLY FOR THE RUBBER TRADE.

THE ATLAS CHEMICAL CO., INCORPORATED, *Newtonville, Mass.*

Henry B. Chamberlain, President and Manager. J. Cheever Fuller, Treasurer.

HORACE E. FINE, TRENTON, N. J.

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FOR BRANDING HOSE, TIRES, BELTING ETC.

WE MANUFACTURE COMPLETE

WRITE FOR PRICES.

QUICKEST SERVICE IN THE WORLD

THE RUBBER SHOES THAT SELL IN EUROPE.

FROM the following communication published in our London contemporary, it appears that American manufacturers are not alone in failing to study the special tastes and demands in the rubber footwear trade now developing to so large an extent in continental Europe. While the letter has been written with a view to giving the British rubber trade a rap, it merits the attention of the manufacturers of rubber footwear in America:

To the Editor of The India-Rubber Journal—*Sir:* My business carries me all over the continent, and I have thus opportunities of hearing and seeing what is said and what is done in the trade. It is a fact patent to any observer that we are losing the markets for galoshes and winter footwear. Where, hardly more than two years ago, nothing but Scotch or English goods were to be seen, we have now Russian, American, Swedish, German, etc., and every make, so far as appearance goes, much outstrips the dull, dowdy-looking articles from England. There is a want of sharpness about the shapes and finish. The varnish or "lak" is not nearly so brilliant, and the eccentricities of the individual are not nearly so accurately studied as they ought to be. The imports [from England] show a very decided falling off, but our good old conservative friends in England go jogging along in the old way and pay no heed to the loss of a market or two. The Russian shoe commands a better price in most continental markets, and the reason is not far to seek. To be unprejudiced, I frankly say I would buy a pair of Russian shoes in preference to English or Scotch, simply because they are so much better in appearance. When in Britain recently I was talking over this question with a shoe man, who very egotistically said, "I'll back my varnish against all comers." If the silly man could only see the galoshes I have seen, "he and his varnish" would go away somewhere to get brightened up a bit. It is a pity to see England losing markets, but she will certainly continue to do so if the present methods of working are persevered in. "LAK."

WARMED HIMSELF OVER A RUBBER MAT.

TO The Editor of The India Rubber World: We herewith enclose a clipping from one of our daily papers While the article is rather amusing and might seem improbable yet we have reason to believe that it is true, and we have thought that it might make a little interesting reading matter for The World. Every day finds a new use for rubber, and the one mentioned in this article is certainly the latest that we have heard. It is needless to say that the Toledo Rubber Co. are in position and ready to execute orders for all kinds of rubber mats and matting, independent of the purpose to which they may be used. THE TOLEDO RUBBER CO.

Toledo, Ohio, February 2, 1899.

[THE CLIPPING.]

Yesterday afternoon at the court house one gentleman unconsciously amused a dozen spectators. In front of the elevator entrances on the several floors are laid large rubber mats They are heavy, and were so molded that they looked something like registers in the floor. The gentleman under consideration went into the court house yesterday. It was cold outside and his nose was red, his cheeks looked pinkish and he had a sort of frozen air. He stepped up to one of the big mats held his hands over it for a while, and then rubbed them satisfactorily. He turned around and backed up to the mat as a man does to a stove, and a look of satisfaction crossed his face.

He was getting warm. He thought the mat was throwing out the heat. He was mistaken. He got warm just the same.

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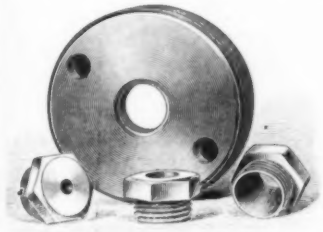

is the most economical tubing machine to buy because it will do more work than any other. It effects a direct saving in running expenses, hence pays a good return on the money inves'ed in it. This is not theory, but the showing of actual service.

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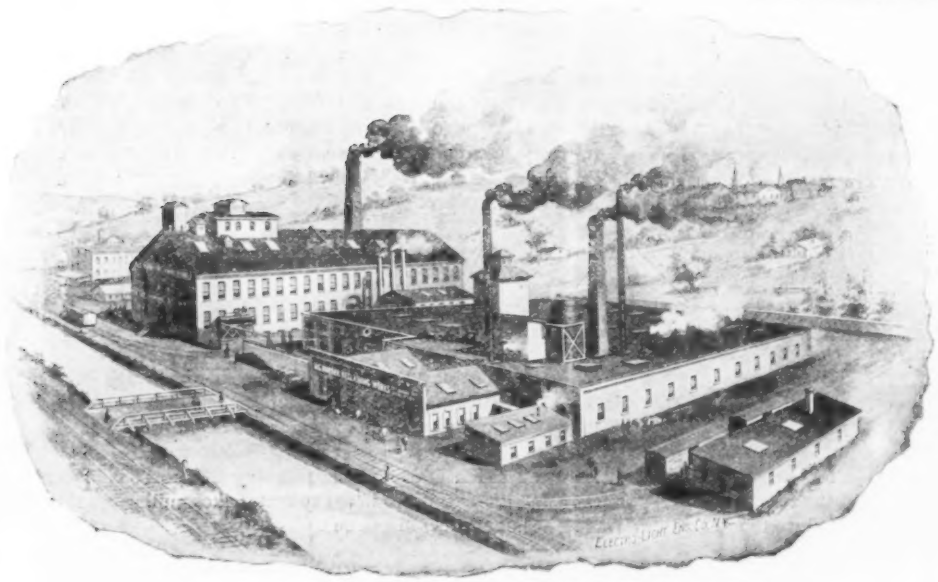
Mention The India Rubber World when you write.

U. S. Rubber Reclaiming Works,

No. 127 DUANE STREET, NEW YORK.

Boston Office, 116 Bedford Street.
H. S. BASSETT, Resident Manager.



Factories,
SHELTON,
CONN.

Mention The India Rubber World when you write.

RUBBER SHOES IN THE RETAIL STORE.

[FROM THE SHOE AND LEATHER GAZETTE.]

MENTION rubbers to the average retailer and you have touched him on a sore point. According to the majority they are either losing money or else coming out just about even at the end of the season. The new price-list has started all the agitation again and some of the retailers assert that if rubbers go much higher they will quit handling them.

When you ask the reason why a retailer should not make a good fair profit on his rubber goods, you get a variety of rather vague reasons, that tell you a good deal and still leave you to guess at a lot of things. There are so many different ways of looking at it that it makes the head of the uninformed whirl to hear it talked of.

In the rubber question there are three different classes of stores to be considered: the large cheap store, the large fine store, and the small outside store.

From the standpoint of the first, rubbers are an awful bother but still a pretty good thing for the store. By that it is not meant that they make any money out of them, but it seems that they make a good advertisement out of it. They carry all grades from the best down to the poorest. The best they make money on, a fair average profit. Then the medium grades they sell at pretty nearly cost, and many of the cheapest ones they retail for much less than they cost, simply as a drawing card. Said a manager of one of these stores:

"Our trade in rubbers is enormous. We practically come out about even on the rubber business each year in a financial way, but we consider that we are ahead on our advertising bill by means of them. Of course on our best goods we make a small profit, but we frequently lose from two to 15 cents per pair on the cheap ones. Last winter we had rubbers from 3 cents up, and they crowded our store every day, and from the crowds we got a great deal besides what they spent for rubbers."

From the standpoint of the stores where they carry fine shoes, and cater to a high-priced trade the tale is somewhat different. They claim that they not only are not making any money, but that they are losing it on their rubber trade. They carry nothing but the best grades, and, as they say, they simply do that for the benefit and convenience of their customers. One of the best known retailers in St. Louis expressed his views as follows:

"The rubber business is one we all wish we could get rid of. We do no more than we absolutely have to, as it is. We do the very best we can for our trade, giving them the best grade goods at second grade prices. For instance, we must have ladies' rubbers to sell at 50 cents and rather than buy 'seconds' and make some profit, and run a chance of satisfying our trade we buy the first grade and pay 46 cents for our 50 cent rubbers. When we sell these we know we have done the best we could for them. Then on top of the small profit we deliver them to all parts of the city or country, even sending them by mail when so requested. So you see our 4 cents profit don't go far. And when you consider that every rubber we sell is handled on the same basis you can figure how we are coming out."

"Well, why is it that you can't charge higher prices?" was asked.

"Because in the past years we have educated the people to the price they are paying and they won't pay more now. Rubbers are different from shoes. People never wear rubbers unless they have to, and so they object to paying more than a certain price. Some years ago when the rubber combination was formed we tried putting up prices and we found that our trade was going to the cheaper places where they could buy rubbers at the old prices. To the consumer all rubbers look pretty much alike, you know, and they did not know that they were buying a cheaper article than they had been used to wearing. So we found that in order to hold our trade we must sell them the rubbers at the old prices, regardless of profits."

From the outside dealer's way of looking at it there is not much to be considered. Very few of them carry any stock, simply buying them in small lots as they need them. They get a profit. One of them said, when asked for his opinion:

"Well, it makes very little difference to us whether they go up or down. We only sell about so many, and we get a good price for them. They are something with which we can't come in competition with the down-town dealers, for we can't carry the stocks they do. Then the down town dealer will buy in large lots and get a wholesale price, thus buying much cheaper than we can. So we simply buy just as we need them, and get a good fair profit on all we sell, and when people want cheaper ones they must go down town for them."

THE LARGEST TIRES EVER MADE.

THE huge tricycle, fitted with gigantic "Vim" tires, that was on exhibition a few years ago in the principal states here and in Europe, and that attracted a great deal of attention, has become theproperty of an advertising concern in Boston, and, afterhaving been cut down to sulky form and drawn by a horse, is being used to advertise a summer resort near Boston. It is interesting in this connection to recall some facts about these big tires, the largest ever built. They were made of 11 ounce duck, heavily frictioned, each tire being 18 inches in cross section, and 11½ feet in diameter. The tire proper was made with six plies of this duck all the way round, and nine plies on the tread. The cover was 3/16 inch thick. Each tire was cured by letting live steam inside of it at 60 pounds pressure, the heat lasting for sixteen hours. Every two hours the tires were turned over in order to give an even cure. During their life they have received only two punctures, which were successfully repaired.

GERMANS IN THE CUBAN RUBBER TRADE.

SEVERAL German rubber goods exporters are reported to have taken steps to get a good part of the rubber goods business in Cuba. Under the guidance of the German consul in Havana, the travelers to be sent out will have special facilities for making inquiries about the trustworthiness and the credit of the customers; the consular staff will also distribute price lists and samples to intending buyers, and make only a nominal charge for this. Any firms who want to open branches in Cuban ports can do so under the full protection of the German consul.

A REAR tire spoon brake operated by a rod running from the rear of the saddle support in such a manner that the rider can brake the rear wheel by shifting his weight to the extreme rear of the saddle has been patented by James Jamieson of Hamilton, Canada.

IN putting away rubber gloves, rubber sponge bags and rubber bathing caps, a liberal supply of talcum, or even ordinary toilet powder, should be applied to them on all sides and they should be placed carefully in boxes without rolling. When they are needed for use again they will not be found adhering in different places in a way that makes pulling apart dangerous, if not entirely disastrous.

SINGLE TUBE TIRES.

The Tillinghast Patent Has Been Sustained

By a decree in the U. S. Court of the First Circuit on November 14th, 1899.

The following licensees alone are authorized to make and sell Single Tube Tires for bicycles:

B. F. Goodrich Co.
Hartford Rubber Works.
Revere Rubber Co.
Mechanical Fabric Co.
Boston Woven Hose & Rubber Co.
Newton Rubber Works.
Hodgman Rubber Co.
L. C. Chase & Co.
Western Wheel Works.

No licenses covering tires for use on vehicles have as yet been issued.

Manufacturers, dealers and all other persons are warned not to make, **sell** or **use** any unlicensed tires.

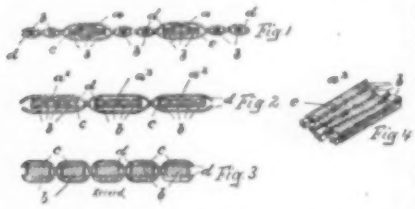
The undersigned believes it wiser to rely on the opinion and decree of a Judge of the United States Court, after nearly a year's mature consideration of evidence, briefs, and arguments, than on the opinion of any firm of lawyers whatsoever, and notifies the trade that he shall claim full damages for future infringements.

THEODORE A. DODGE,
Room 1238 N. Y. Life Bldg.,
New York City.

A NOVELTY IN WOVEN ELASTIC FABRICS.

THE novel feature of the new fabric is that, without requiring proportional large quantities of woven fibrous threads, the rubber strands used in its construction are well covered with fibrous threads, either when the fabrics are in normal contracted position or when stretched, and in which construction the rubber strands are so incased and bound in as to be well protected, so that they cannot slip in the fabrics when the latter are stretched, and also so that they cannot contract or lose their positions relative to the woven threads when the fabrics are cut. To this end there are incorporated in the bodies of the fabrics oval or flat elastic braids, in which the rubber threads or strands are incased, or both incased and intertwined, by braided fibrous threads. These elastic braids may be employed either alone or in connection with raw or unbraided rubber warps or strands, and give an attractive ribbed effect to the fabrics in which they are incorporated. The rubber threads thereof may, if desired, be incased or intertwined by fibrous threads of cheaper material than the material employed in the woven elastic fabrics, thus producing narrow-ware or other woven fabrics of silk, cotton, or other material; the fibrous threads of the elastic braids may be all cotton, while the warp and filling of it may be of silk, cotton, or other material. In such case the cotton of the elastic braids will be covered by the silk or other material of the woven fabric in such a manner that less silk or other material need be employed in the fabrics to cover and protect the rubber than would otherwise be necessary. Furthermore, the fibrous threads in the elastic braids afford a better frictional hold by the filling of the woven fabric on the rubber threads when the fabrics are stretched, or when cut, than would be afforded by a direct contact of the said filling with said rubber threads or strands.

Of the accompanying illustrations, which clearly show the construction of the new fabric, Fig. 1 illustrates in enlarged diagrammatic view a small section of the new fabric, in which oval elastic braids are employed in connection with raw or uncovered rubber strands. Fig. 2 is a similar view illustrating a form of construction in which flat elastic braids alone are employed, these flat elastic braids each comprising several rubber strands incased and intertwined by braided fibrous threads. Fig. 3 is a view similar to Fig. 1, illustrating another form of construction and in which flat elastic braids, each comprising a single strand of rubber, are employed. Fig. 4 represents a piece of flat braid such as is incorporated in the fabric represented in Fig. 2.



A description of the construction of the new fabric is best given by quoting letters of references of which *a* denotes elastic braids which are oval in cross section, formed by employing in each braid three rubber strands *b*, the central one of which is much larger than the outer ones, these rubber strands being incased and intertwined by braided fibrous threads *c*.

b represents uncovered rubber threads bound into the fabric by the picks *d*, but which also may be bound in by binder-warps. Filling threads may also be employed in connection with these uncovered rubber warps, if desired, such filling threads and binder-warps being omitted in the present instance for clearness of illustration.

In Fig. 2 flat elastic braids a^2 are employed, each comprising several rubber strands *b*, incased and intertwined by braided fibrous threads *c*, said braids being interwoven by picks *d*.

Fig. 3 represents another form of construction of the new fabric in which relatively large rubber strands *b* are incased in fibrous braided coverings *c*, these flat braids being interwoven by picks *d*.—*The Textile Record* (*Philadelphia*).

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INTERNATIONAL DICTIONARY

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TRENTON, N. J.
MANUFACTURER OF
RUBBER SUBSTITUTES
AND
CHLORIDE OF SULPHUR.
SAMPLES SENT FREE.
Mention The India Rubber World when you write.

CUNHA VILLAÇA sends to the *Jornal do Commercio* a comparative statement of the cost of two plantations, respectively, of coffee and maniçoba (Ceará rubber), including the first clearing, planting, and care for a certain number of years, together with the average return and profit. The showing per acre is as follows, the figures denoting milreis, the money of Brazil:

	Coffee.	Rubber.
Clearing, planting, and weeding	263	374
Income	375	900
Profit	112	526

He, therefore, favors maniçoba cultivation in place of coffee. The Brazilian planter has at present too many eggs in one basket, and might well take these particulars into serious consideration.

THE New York *Sun* mentions the case of H. Westerfeld, a young man from New England, who went to Nicaragua several years ago to recruit his health, and became employed there as a clerk at $40 a month. He saved enough from his salary to buy 160 acres of land, which he cleared gradually and planted in bananas and India-rubber. The bananas begun to yield a small revenue at the end of one year. In August last, being compelled for family reasons to return to the United States, he sold his plantation, then three years old, for $23,000, the young rubber trees being the chief consideration. His success is said to have induced several other Americans, who had been interested before only in bananas, to begin planting rubber on a liberal scale.

BELTING HOSE

RUBBER GOODS

MADE IN

AKRON, OHIO, U. S. A.

BY THE

DIAMOND RUBBER COMPANY,

ARE

TIRES PACKING

RELIABLE GOODS.

Mention The India Rubber World when you write.

NEW JERSEY RUBBER COMPANY,

MANUFACTURERS OF ALL KINDS OF

RECLAIMED ❋ RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, LAMBERTVILLE, NEW JERSEY.

Mention The India Rubber World when you write.

RUBBER SHOES FOR AUSTRALIA.

A COMMUNCIATION to the *Manufacturer* (Philadelphia), from Sydney refers to a demand for a variety of rubber overshoes. The galoshe had been in but little demand for a long time. It was only to be seen on the feet of people who were regarded as old-fashioned or eccentric, and consequently the stocks of this article were allowed to run low. But several weeks of continuous rain worked a wonderful change. There was a sudden wild rush for galoshes and, of course, those who were early in the stores had the advantage of selecting and the demand soon absorbed the available stocks. The whole city seemed intent on buying galoshes. One retail house is reported to have sold no less than 600 pairs of galoshes before the stock gave out. The houses ran short of "sizes" in the first few days of the run. In all probability this little boom will induce dealers to keep larger stocks of this class of goods.

THE New York *News*, in a two column article headed "Death Due to Work," itemizes several deadly trades, the third in the list being the manufacture of rubber goods, which will come as a surprise to most rubber manufacturers.

PHILIP McCRORY,

TRENTON, N. J.

Wholesale Dealer in SCRAP RUBBER.

THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED SCRAP RUBBER OF ALL KINDS.

Second-Hand Rubber Mill Machinery Bought and Sold.

Mention The India Rubber World when you write.

THE value of imports of crude rubber into Canada during the first four months of the current fiscal year—July to October, inclusive—is reported officially at $615,923, against $555,034 for the corresponding period of last year, or an increase of nearly ten per cent.

A JAPANESE correspondent to THE INDIA RUBBER WORLD writes that some fifteen years ago a native of that progressive country started a rubber plantation. Although the trees grew very nicely, they did not seem to be sap producers, so the experiment was in reality a failure.

CRUDE { GUTTA PERCHA, BALATA
TUNO, ALMADINA,
CHICLE, &c.
NEW GUMS TESTED. . . .

RUBBER { SUBSTITUTES
CHEMICALS,
COLORS,
OR CEMENTS.

Representing Lufbery & Chardonnier, Chauny, France,
Manufacturers of Rubber Substitutes and Antimony.

HENRY SMYTHE,
TELEPHONE No. 1443 BROAD. 3 SOUTH WILLIAM ST., N. Y.

Mention The India Rubber World when you write.

RUBBER SUPPLIES.

PARA "FACTIS," trade mark for our ordinary grades of black and white substitutes, which are largely used by manufacturers of bicycle tires, rubber clothing, druggists' sundries and mechanical goods.

Asbestine,
Asbestos Pulp,
Barytes,
Blue Lead,
Black and White Substitutes,
Bicycle Cements (all kinds),
Carbon Bisulphide,
Chloride of Sulphur,
French Chalk,
Golden Sulphide Antimony
Lime,
Magnesia,
Plumbago,
Red Oxide,
Shoddy and Ground Waste,
Soapstone,
Sulphur,
Talc,
Vermilion,
Zinc Oxide,
Zinc Sulphide.

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CRUDE RUBBER, CHEMICALS AND SUBSTITUTES,
150 NASSAU STREET,
NEW YORK.

Telephone Number, 3906 Cortlandt.
Cable Address, Bellsmith. Lieber's Code Used.
Mention The India Rubber World when you write.

BENZOL

Benzols and Coal Tar Naphthas
OF EVERY GRADE
for use in rubber manufacturing.
SPECIAL MIXTURES MADE TO ORDER.
All goods warranted A 1 in every respect. Samples free on application. If interested, write to *Chemical Dept.*,
BARRETT MFG. CO.,
PHILADELPHIA, PA.

JENKINS' DIAMOND TRAP.

Especially adapted for RUBBER WORKS or in any place where from 500 to 1000 feet of one-inch pipe is to be taken care of.
SIMPLE. STRONG. DURABLE.
It occupies little space, and can be placed in any position.
JENKINS BROS., New York, Philadelphia, Chicago, Boston.

BETZLER & WILSON,
Manufacturers of FOUNTAIN AND STYLOGRAPHIC PENS,
Exceptional Facilities. Low Estimates on large quantities.
Foreign trade solicited. Write for catalogue.
AKRON, OHIO, U. S. A.

FOSSIL FLOUR FOR
COMPOUNDING IN NEARLY ALL RUBBER WORK, PRESS HEATS, WET HEATS, DRY HEATS, AND VAPOR CURE. LIGHT, WHITE AND ABSOLUTELY NEUTRAL.
THE FOSSIL FLOUR CO.,
Mines, BASS RIVER, NOVA SCOTIA.
OFFICES, 239 Pearl St., New York. 20 Chapel St., Liverpool, England.
Mention The India Rubber World when you write.

· PURE · SOFT SULPHUR

ESTABLISHED 1841. INCORPORATED 1897.
Bergen Port Sulphur Works
ORIGINAL MANUFACTURERS OF
PURE SOFT SULPHUR
PREPARED ESPECIALLY FOR
Rubber Manufacturers.
T. & S. C. WHITE CO.,
28 Burling Slip, NEW YORK.
Mention The India Rubber World when you write.

SULPHUR

BROOKLYN SULPHUR WORKS,
Manufacturers of
Double Refined and Sublimed
FLOUR SULPHUR
Especially adapted to the use of
RUBBER MANUFACTURERS
AND WARRANTED FREE FROM GRIT.
BATTELLE & RENWICK
163 Front St., New York.

Dixon's Silica-Graphite Paint

Roofs and iron work properly painted have not required repainting in ten to twenty years. Time only can prove the value of a paint, and Dixon's Silica-Graphite Paint is the ONLY graphite paint with a satisfactory time record.
For convincing evidence, address
JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.
Mention The India Rubber World when you write.

Bi-Sulphide of Carbon. **CHLORIDE OF SULPHUR,** Specially prepared for Vulcanizing India Rubber. **ALGANNIN PASTE.**
EDWARD R. TAYLOR, Manufacturer, CLEVELAND, O.
Mention The India Rubber World when you write. Correspondence Solicited.

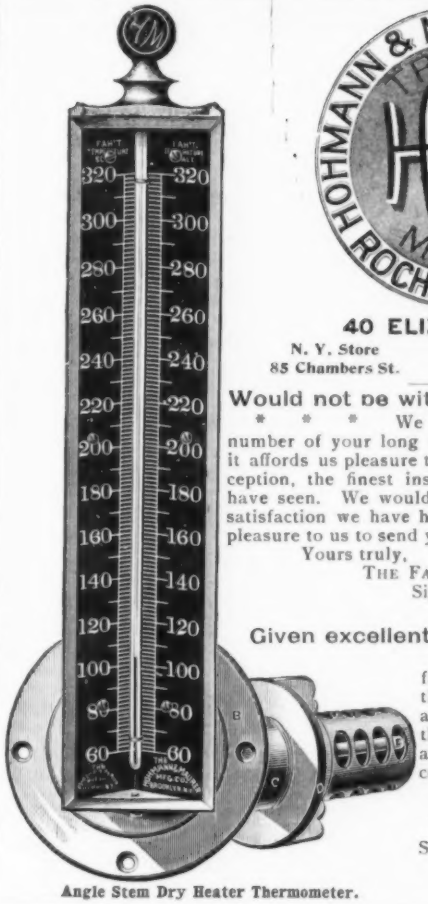
THE RUBBER GOODS TRADE IN MEXICO.

THE INDIA RUBBER WORLD is in receipt of an inquiry, from parties who have obtained a "concession" for establishing an India-rubber factory in Mexico, for an opinion as to the possibility of developing the same successfully. This is not the first time that an engagement has been entered into between the Mexican government and citizens of other states, whereby grants of lands, exemptions from taxation, or other forms of encouragement would be given to the latter for the erection and operation of a rubber factory, but so far no practical results have followed.

In answer to the inquiry now at hand, attention must first be called to the extent of the Mexican consumption of rubber goods. In THE INDIA RUBBER WORLD for February 10, 1898, was published a statement, obtained from the Mexican treasury department, of the "Importations of Articulos de Caucho [caoutchouc]" for five fiscal years, ranging from $196,568 to $288,137 (silver) per year. These figures included articles of celluloid and linoleum, but no details are afforded to show the proportion of these two classes of goods. The American exports of rubber goods to Mexico amount annually to something upwards of $100,000 (gold), the figures for the fiscal year 1889-99 reaching $126,855. A rubber factory which did not produce a larger amount of goods than these figures indicate would be a small affair. But in order to supply the whole Mexican consumption in this line it would be necessary to install plant for the manufacture of belting, hose, packing, shoes, mackintoshes, hard rubber, druggists' and stationers' sundries, billiard cushions, and a lot of other things, which would require a large initial outlay of capital. Moreover, on account of the small production in each branch, it would hardly be possible to compete, in respect to prices, with American factories producing goods on a larger scale, except with the aid of protective duties so high as to discourage the sale of goods.

A representative of THE INDIA RUBBER WORLD has had an interview recently with Mr. Arturo Luckhaus, general buyer for Roberto Boher y Cia., a large hardware firm in the City of Mexico, who has long been familiar with trade conditions in that country. He states that the principal center of the rubber goods trade in the republic is in the City of Mexico. His firm sell most lines in rubber for which there is any demand, including shoes and mackintoshes, and the same is true of other general merchants there. Only well to do people buy these articles. The most important demand for rubber comes from the mining companies, whose business is more important than any other interest in Mexico. Some stores in mining centers carry a small stock of rubber supplies, derived either from dealers in the City of Mexico or, in a few cases, direct from manufacturers. Druggists' sundries are most apt to be called for in drug stores. Most of the rubber goods sold are produced in the United States. Travelers sometimes call on the dealers; other goods are obtained through export firms in New York. Recently a San Francisco manufacturer sent a representative to Mexico, who obtained satisfactory orders.

The *Mexican Herald* mentions a visit to Mexico of J. W. Ellsworth, of San Francisco, described as the president of the Rio Michol and a director in the Palenque and the Chiapas Rubber Plantation and Investment companies. The three companies are capitalized at $500,000, are organized for rubber cultivation alone, and own large estates in the Palenque district of the state of Chiapas. Mr. Ellsworth had purchased a short while before, 25,000 acres additional in Chiapas. He was accompanied by Murray M. Harris, of Los Angeles, Cal., a large stockholder in the three corporations.



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HOHMANN & MAURER MFG. CO. TRADE H&M MARK ROCHESTER, N.Y.

40 ELIZABETH ST.

N. Y. Store 85 Chambers St. — London Office 106 Hatton Garden, E. C.

Would not be without them.

* * * We have in use on our heaters a number of your long stem angle thermometers, and it affords us pleasure to say that they are without exception, the finest instruments for the purpose we have seen. We would not be without them, and the satisfaction we have had from their use, makes it a pleasure to us to send you this endorsement.

Yours truly,
THE FAIRFIELD RUBBER CO.,
Signed—E. W. HARRAL, Pres,.
Fairfield, Conn.

Given excellent satisfaction.

* * * Replying to your favor of the 24th inst. would say that we take great pleasure in advising you that the improved thermometers furnished us about a year ago have given excellent satisfaction.

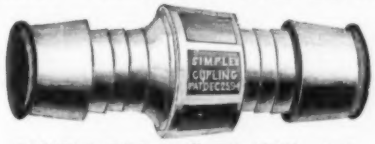
Yours truly,
NATIONAL INDIA RUBBER CO.,
Signed—GEO. SCHLOSSER, Supt.
Bristol, R. I.

SEND FOR CATALOGUE.

MANUFACTURER, JOBBER, RETAILER.

You have all had complaints of couplings blowing out of hose.

AVOID FUTURE COMPLAINTS BY USING "SIMPLEX" COUPLINGS, NO HYDRANT PRESSURE WILL START THEM.

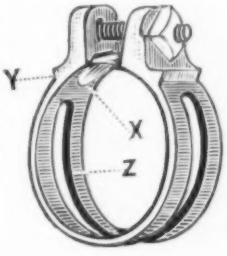


SAMPLE SET 3-4" BY MAIL, 15C.

BROWN & WALES,
69 PURCHASE ST., - - BOSTON.

REELS, NOZZLES, LAWN SPRINKLERS, HOSE MENDERS, IRON, STEEL, METALS AND BICYCLE SUPPLIES.

Mention The India Rubber World when you write.



Yerdon's Improved Double Hose Band....

SIMPLE, STRONG, SURE.

Send for Sample and Prices.

WILLIAM YERDON, - Fort Plain, N. Y.

Mention The India Rubber World when you write

Positions Wanted.

POSITION WANTED as foreman of cement or stitching department, or both, in a mackintosh factory, have had twelve years experience in England and in this country. Address, "Cement," care of THE INDIA RUBBER WORLD. (Feby)

A TRAVELING SALESMAN with a large established trade in New York State and Pennsylvania is open for an engagement; has had eight years experience selling mechanical rubber goods for a large manufacturer. Address, "Albany," care of THE INDIA RUBBER WORLD. (Feby)

POSITION WANTED by a man 28 years old, who has had nine years' experience, to take charge of a calender and grinder; is also an experienced compounder for mackintoshes and rubber clothing, insulated wire tape, hard and soft tubing, gaskets, packing; is also an experienced cutter of everything in the rubber line. Address, S. S., care of THE INDIA RUBBER WORLD. (Feby)

INSULATED WIRE MAN, who has had fifteen years' experience with leading firms, and is thoroughly familiar with all details of manufacture is open for engagement; is a good rubber compounder and draughtsman, and is capable of installing a new plant. Address, "O. K.," care of THE INDIA RUBBER WORLD. (Jan.)

SITUATION WANTED.—By a superintendent of rubber reclaiming factory. He is an expert in all branches of modern improvement, and is a first-class business manager. Ten years' experience. Address, J. G. H., care of THE INDIA RUBBER WORLD. (Jan.)

POSITION WANTED with some concern to manufacture golf balls. I understand the business thoroughly, having been connected with the Gutta-Percha department of the Silvertown Rubber Works. I am now remaking old golf balls. Address, Golf Balls, care of THE INDIA RUBBER WORLD. (Jan.)

WANTED.—A good machinist, one who is familiar with the machinery in use in a large mechanical rubber factory, and is thoroughly experienced. Address, M. K. Lake, care of THE INDIA RUBBER WORLD. (Jan.)

Help Wanted.

WANTED.—A competent man as foreman, one who has had experience with all kinds of "spreaders"; no drinking man; must furnish good references which will be thoroughly investigated. Steady employment. State wages expected. Address, "Newark," care of THE INDIA RUBBER WORLD. (Feby)

Miscellaneous.

WANTED.—We want rubber brokers, dealers and agents to handle our rubber cement scrap balls. Samples will be mailed free. Or, we will arrange with an energetic man, from whom references and security will be required, to carry a supply of our stock on a good commission or with a half interest guaranteed. Write to "Cement Balls," care of THE INDIA RUBBER WORLD. (Feby)

WANTED an active young man with $5000 capital to join a new enterprise connected with the manufacture of rubber automobile tires, based on the experience of a practical man, who is in a position at once to secure profitable contracts, Address, Automobile, care of THE INDIA RUBBER WORLD. (Jan.)

Machinery For Sale.

FOR SALE.—Two large 20×60 4-roll chilled calenders complete; four 12×36 chilled iron mills complete; extra chilled iron washer, cracker, mill, calender rolls, bed plates, and frames. Philip McGrory, Trenton, N. J. (Jan.)

FOR SALE.—One hydraulic press, with upper and lower steam boxes, platen 17½×28 inches. Press is 4 feet 8 inches high, has a hand pump, has been used but little and will be sold low. Davol Rubber Co., Providence, R. I. (Jan.)

. . . MACHINERY FOR SALE. . .

PRESSES, MOULDS, VULCANIZER,
SPREADING MACHINES, ROLLS,
SHODDY SIEVES,
BUTTON HOLE MACHINES,
SEWING-ON-BUTTON MACHINES,
CEMENTING TOOLS, etc., etc.

METROPOLITAN RUBBER CO.,
35 HOWARD STREET, - - NEW YORK.
Mention The India Rubber World when you write.

MR. J. C. HARVEY, an experienced tropical agriculturist, for several years past engaged practically in

Rubber Cultivation in Mexico,

in regard to which he has contributed several articles to THE INDIA RUBBER WORLD, is now visiting the United States and would be pleased to meet by appointment any of the numerous correspondents who have written to him in Mexico making inquiries concerning India-rubber, as well as any others who may desire information on this subject.

He may be addressed for the present at the Herald Square Hotel, New York.

Mr. Harvey is also prepared to offer advice to intending investors in Mexico, besides which he is empowered to dispose of some very desirable rubber lands. References in New York, City of Mexico, and Los Angeles, California, his former home.

The Missouri Coffee and Rubber Co., IMPORTERS EXPORTERS.

210 LACLEDE BLDG., - - ST. LOUIS, MO.,

Announce that a few more shares of their capital stock is for sale. **Owners of Plantation LOLITA.**

WRITE FOR ILLUSTRATED PAMPHLET

Mention The India Rubber World when you write. **containing full particulars.**

REMOVAL NOTICE.

THE HAZELTON BOILER COMPANY,

have removed to their new works at Rutherford, New Jersey.

Please address all communications to the company at its new New York Office, 120 Liberty Street, N. Y. City.

Mention The India Rubber World when you write.

GOLDEN SULPHURET OF ANTIMONY.

PREPARED EXPRESSLY FOR THE RUBBER TRADE.

THE ATLAS CHEMICAL CO., INCORPORATED, *Newtonville, Mass.*

Henry B. Chamberlain, President and Manager. J. Cheever Fuller, Treasurer.

SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &c.

FINE WORK. LOW PRICES PROMPT SHIPMENT.

Estimates and Samples Furnished on Application.

ALSO ANY OTHER KIND OF

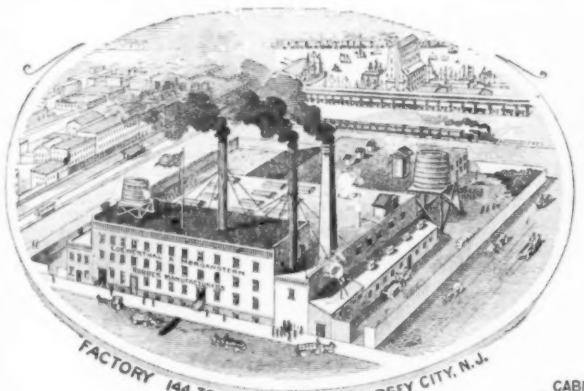
FANCY WOOD BOXES MADE TO ORDER.

Extensive Facilities enable us to Guarantee Satisfaction.

Henry H. Sheip Mfg. Co.

1702-10 RANDOLPH ST., - PHILADELPHIA, PA.

Mention The India Rubber World when you write.



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(SUCCESSOR TO LOEWENTHAL & MORGANSTERN.)

Manufacturers of RECLAIMED RUBBER

OFFICE, 144 PROVOST ST.,

TELEPHONE 372 JERSEY CITY.

JERSEY CITY, N. J.,

CABLE ADDRESS. "APACHE" NEW YORK.

NEW YORK OFFICE, 127 Duane Street.

NEW ENGLAND AGENCY, ROBERT T. BAIRD, 67 Chauncy St., Boston.

The Tropical Agriculturist.

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ALL about Tea, Coffee, Cacao, Tobacco, Cardamoms, Cotton, Cinchona, Sugar, Liberian Coffee, India-rubber, Cinnamon, Cassia, Cocoanuts, Palmira and other Palm Trees, Aloes and other Fibre Plants, Rice, Fruit Trees, Vegetables, Citronella and other Grasses yielding Essential Oils, Gum, and other Tropical Products.

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HALF YEARLY, $3.00. " " $2.60.

The whole sixteen volumes published can be had for $88.

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CIRCULATES throughout the island of Ceylon, and in Southern India. Its Overland Edition circulates extensively in Great Britain and Ireland. Annual subscription, $15.00. *Overland Observer* (Weekly), $8.00. The Advertising Rates are moderate. Special quotations given for Trade Announcements, appearing for a series of insertions.

☞ Maps of Ceylon and Estates, Ceylon Directory, Planting Manuals, etc. Cheques should be drawn in favor of the MANAGER, *Ceylon Observer.*

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RUBBER SUBSTITUTE AND CHLORIDE OF SULPHUR,

SUPERIOR QUALITIES, MADE FROM BEST MATERIALS AND BY UP TO-DATE METHODS.

White Substitute. Black Substitute. Mono Chloride Sulphur for making White Rubber Substitute. Proto Chloride Sulphur, for curing purposes. Bi-Chloride Sulphur, for making Brown Rubber Substitute. Also Waxes and Earths.

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WILLIAM H. SCHEEL,

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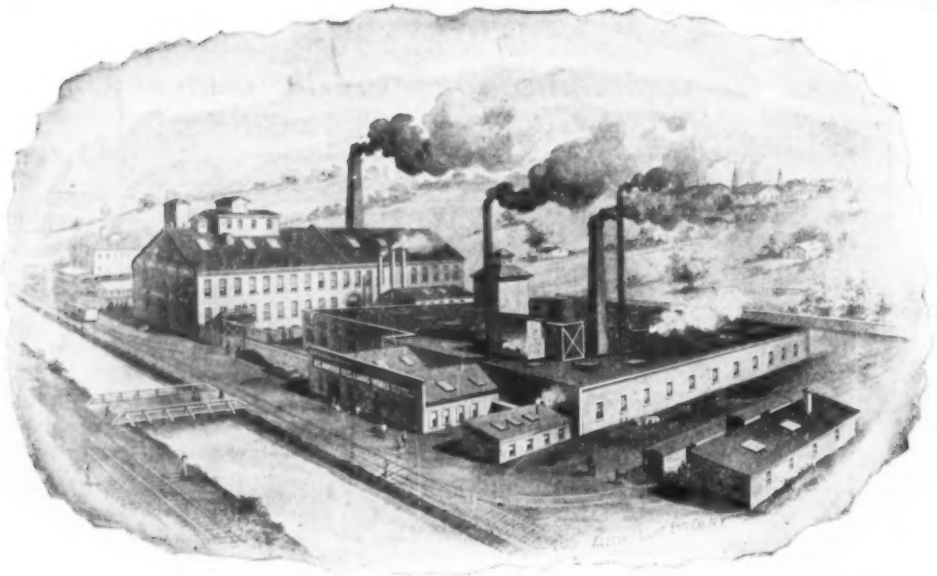
U. S. Rubber Reclaiming Works,

No. 127 DUANE STREET, NEW YORK.

Boston Office, 116 Bedford Street.
H. S. BASSETT, Resident Manager.



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SHELTON,
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LARGEST DEALERS IN OLD RUBBER BOOTS AND SHOES IN THE WORLD.

Scrap Rubber { Rubber boots and shoes; Rubber, white; Rubber, black and dark; Rubber car springs; Rubber pneumatic bicycle tires; Rubber solid tires; Rubber wagon tires, solid; Rubber automobile tires; Rubber steam hose; Rubber fire hose; Rubber garden hose; Rubber air brake hose Rubber inner tubes (elastic); Cotton fire hose, rubber lined; Rubber Matting, Rubber Packing.

THEODORE HOFELLER & CO.,

Nos. 98, 100 AND 102 TERRACE, - - - - - BUFFALO, N. Y., U. S. A.
FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED. Cable Address, HOFELLER, BUFFALO. A. B. C. Code used.
Mention the India Rubber World when you write.

WM. H. CUMMINGS & SONS,

Commission Merchants,

BUY AND SELL RUBBER WASTE.

Cable Address, UNITMOSQUE. P. O. Box 732.
48 Harrison Street, New York, U. S. A.
Mention The India Rubber World when you write.

DISLIKES RUSSIAN RUBBERS.—L. Lodian, who has traversed Russia afoot, throughout the length of the trans-Siberian railway, writes in the *American Gas Light Journal* (New York) in terms very uncomplimentary to the Russian made rubber shoes. He speaks of them as being "lined with inferior red-dyed wool or shoddy, and so poorly dyed that the red comes out, and will even stain the boots; while, if worn as a temporary make-do next the socks in the house, the socks are quickly discolored a dingy red or pink, which even soaks through and dyes the skin, and is liable to produce blood-poisoning."

THE use of rubber shoes in France has taken such a hold upon the people there, says *Le Moniteur de la Cordonnerie*, that all the retailers have taken up the sale of them.

VENEZUELA.—During 1898 at Ciudad Bolivar little rubber was received from the Rio Negro, but, according to a report published last year, larger quantities were expected for 1899. The gathering of Balata rubber on the lower Orinoco has increased very materially, and large quantities of this product will be sent out for some time to come, although it is to be feared that the custom of felling the trees to obtain the rubber will in time exterminate them. The young growth of trees makes but slow progress.

THE school board of Detroit, Mich., have ordered that one of the new school buildings be furnished with cork stair treads, instead of rubber, with a view to using cork in all the buildings if the experiment should prove successful.

GUTTA-PERCHA FROM LEAVES.

THE impression may be wrong which has prevailed hitherto in America, that the collection of Gutta-percha leaves tended to protect the forests from the depredations of collectors of Gutta-percha by the old method of felling the trees. In the *British North Borneo Herald* Henry Walker, commissioner of lands in that colony, writes:

"The Dyak collector only fells Gutta trees over six inches in diameter, because, as he says, trees of a smaller size have too thin a bark to yield any Gutta. Consequently the Gutta collector does not exterminate—he merely collects a ripe crop and leaves nature to furnish a further supply in years to come. In this respect he differs from the Gutta leaf collector, who fells every tree, small or great; and if leaf collecting is allowed, extermination must ensue—or so few trees will be overlooked that future collecting will not pay. Another point against leaf collection is the weight of the leaf; if not dry—the trouble of drying it—and when dry the small percentage of Gutta extracted."

GUTTA-PERCHA IN BORNEO.

REPORTS continue to come to hand respecting the discovery of Gutta-percha trees in regions of Borneo hitherto unexplored. Moreover, the better grades are found in most cases recently reported. Recent exports of Gutta-percha and India-rubber from British North Borneo were in value as follows:

	1897.	1898.
Gutta-percha	$93,639	$125,280
India-rubber	49,513	79,600
Total	$143,152	$204,600

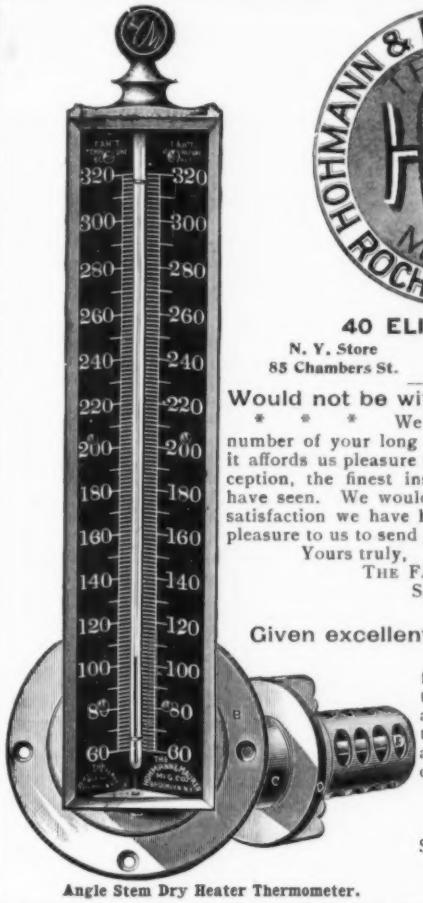
All the collections made in the territory of British North Borneo are not exported direct, a certain amount being sent instead into the independent territories and into Dutch Borneo and sold to traders who supply repeating rifles and other guns the importation of which is not allowed in British North Borneo.

RUBBER IN THE EAST INDIES.

BRITISH NORTH BORNEO was visited lately by H. W. Bailey, of Ceylon, to inspect lands supposed to be suitable for Gutta-percha and India-rubber. He reported favorably on a block of 20,000 acres on the line of the railway running inland from Weston, on Brunei bay, and 10,000 acres to the north of Sandakan. The Eastern Extension Telegraph Co. have an interest in part of these lands, which they received in return for laying a cable between Borneo and Labuan, and it is understood that they intend to take up the cultivation of these commodities. In one district the natives cultivate a creeper and tap it periodically, obtaining a rubber which brings them $80, silver, per picul (=60 cents per pound).

The Perak administration report for 1898 states that Pará rubber is being cultivated in that state to a large extent. From the government gardens 32,000 seeds and 59,718 seedlings were sold, and the forestry department has large rubber nurseries. Samples of rubber from the government gardens have brought good prices in London. The sultan has applied for a reserve of 15,000 acres for Gutta-rambong, and proposes to form a company among native gentlemen.

At a meeting of the United Planters' Association of the Federated Malay States, at Selangor, W. W. Bailey reported that a company had been formed to plant Pará rubber, on the condition of obtaining seeds from the Singapore government. Their order was accepted for 500,000, to be supplied as the seeds matured in the botanic gardens. Later the government repudiated the action of the official in charge, on the plea that residents of the colony should be supplied before outsiders. Mr. Bailey stated that only 15,000 seeds were now offered by the Singapore government, whereupon it was resolved to file a legal claim against that government.



Angle Stem Dry Heater Thermometer.

HOHMANN & MAURER MFG. CO. TRADE H&M MARK ROCHESTER, N.Y.

40 ELIZABETH ST.

N. Y. Store 85 Chambers St. — London Office 106 Hatton Garden, E. C.

Would not be without them.

* * * We have in use on our heaters a number of your long stem angle thermometers, and it affords us pleasure to say that they are without exception, the finest instruments for the purpose we have seen. We would not be without them, and the satisfaction we have had from their use, makes it a pleasure to us to send you this endorsement.

Yours truly,
THE FAIRFIELD RUBBER CO.,
Signed—E. W. HARRAL, Pres,.
Fairfield, Conn.

Given excellent satisfaction.

* * * Replying to your favor of the 24th inst. would say that we take great pleasure in advising you that the improved thermometers furnished us about a year ago have given excellent satisfaction.

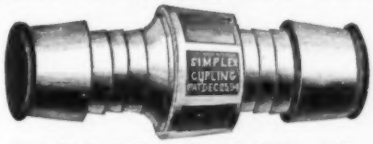
Yours truly,
NATIONAL INDIA RUBBER CO.,
Signed—GEO. SCHLOSSER, Supt.
Bristol, R. I.

SEND FOR CATALOGUE.

MANUFACTURER, JOBBER, RETAILER.

You have all had complaints of couplings blowing out of hose.

AVOID FUTURE COMPLAINTS BY USING "SIMPLEX" COUPLINGS, NO HYDRANT PRESSURE WILL START THEM.

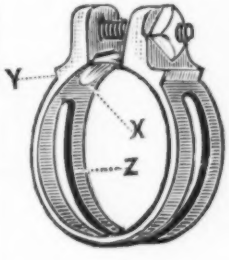


SAMPLE SET 3-4" BY MAIL, 15C.

BROWN & WALES,
69 PURCHASE ST., - - BOSTON.

REELS, NOZZLES, LAWN SPRINKLERS, HOSE MENDERS, IRON, STEEL, METALS AND BICYCLE SUPPLIES.

Mention The India Rubber World when you write.



Yerdon's Improved Double Hose Band....

SIMPLE, STRONG, SURE.

Send for Sample and Prices.

WILLIAM YERDON, - Fort Plain, N. Y.

Mention The India Rubber World when you write

Positions Wanted.

MACKINTOSH.—A position is wanted by a man who understands the making up of mackintoshes for ladies and gentlemen; can introduce a new idea of self-fitting collar; 12 years experience in America and England. Address, Shower Proof, care of THE INDIA RUBBER WORLD. (March)

POSITION WANTED.—By a man who has had 15 years experience as foreman in hose room and is an all round mechanic in other branches of rubber works; not a drinking man. Address, B. B., care of THE INDIA RUBBER WORLD. (March)

POSITION WANTED.—A gentleman thoroughly familiar with rubber-mill machinery would like to engage as a mechanical engineer or assistant superintendent. Address, M. E., care of THE INDIA RUBBER WORLD. (March)

A young man who has had fifteen years' experience in both office and factory in the hard and soft rubber business would like to secure a position where merit will be appreciated. Address, "Steady," care of THE INDIA RUBBER WORLD. (March)

A young man with years of experience at vulcanizing dress shields and rubber dam, who can construct machines for such work, wishes a situation. Address, J. S., care of O. Schmidt, 494 Grand St., Brooklyn, N. Y. (March)

POSITION WANTED as foreman of cement or stitching department, or both, in a mackintosh factory, have had twelve years experience in England and in this country. Address, "Cement," care of THE INDIA RUBBER WORLD. (Feby)

A TRAVELING SALESMAN with a large established trade in New York State and Pennsylvania is open for an engagement; has had eight years experience selling mechanical rubber goods for a large manufacturer. Address, "Albany," care of THE INDIA RUBBER WORLD. (Feby)

POSITION WANTED by a man 28 years old, who has had nine years' experience, to take charge of a calender and grinder; is also an experienced compounder for mackintoshes and rubber clothing, insulated wire tape, hard and soft tubing, gaskets, packing; is also an experienced cutter of everything in the rubber line. Address, S. S., care of THE INDIA RUBBER WORLD. (Feby)

Help Wanted.

WANTED.—On commission, a salesman with an established trade for a line of moulded goods and pure sheet packings. The line of compounds beats anything in the market. Address, Sheet Packings, care of THE INDIA RUBBER WORLD. (March)

WANTED.—An experienced rubber-chemist with a thorough knowledge of compounding. State references, experience, and salary expected. "Nilio," care of THE INDIA RUBBER WORLD. (March)

WANTED.—An experienced pattern designer or cutter in a rubber boot and shoe factory about establishing. Address, stating salary expected, R. I. C., care of THE INDIA RUBBER WORLD. (March)

WANTED.—By an exclusive rubber shoe house, an experienced salesman, who has an established trade in this line in Western Pennsylvania, Ohio and West Virginia. Address, C., care of THE INDIA RUBBER WORLD, giving experience, age and references. (March)

WANTED.—A competent man as foreman, one who has had experience with all kinds of "spreaders"; no drinking man; must furnish good references which will be thoroughly investigated. Steady employment. State wages expected. Address, "Newark," care of THE INDIA RUBBER WORLD. (Feby)

Machinery For Sale.

FOR SALE.—Two 12×36 grinders.
Three extra calender rolls, 18×54.
Three sets of 15×24 washer rolls.
Philip McGrory, Trenton, N. J. (March)

FOR SALE.—Several hydraulic presses and pumps, also lot of screw presses all with steam plates, also separate steam plates for tables, also two vulcanizers. Address, "Liberty," care of THE INDIA RUBBER WORLD. (March)

FOR SALE.—12 in. Fly Wheel, 13,050 lbs., bore 5-15/16, rim about 8⅝ in. wide by 9 in. deep, split. Also a lot of hose poles used about six months. New Jersey Rubber Company, Lambertville, N. J. (March)

. . . MACHINERY FOR SALE. . .

PRESSES, MOULDS, VULCANIZER,
SPREADING MACHINES, ROLLS,
SHODDY SIEVES,
BUTTON HOLE MACHINES,
SEWING-ON-BUTTON MACHINES,
CEMENTING TOOLS, etc., etc.

METROPOLITAN RUBBER CO.,
35 HOWARD STREET, - - NEW YORK.

Mention The India Rubber World when you write.

Miscellaneous.

M. J. Herman Son & Co., of Brockton, Mass., sell dry rubber cement balls at low price. Mail a postal card and it will be promptly answered with a free sample. (March)

A man familiar with the manufacture of all kinds of rubber goods, as superintendent for ten years, thoroughly practical, and able to command a large trade, desires to meet a party with capital with the view of starting a factory to manufacture mechanical goods. Address, G. K., care of THE INDIA RUBBER WORLD. (March)

I have a Rubber factory with Calenders, Mills, Presses, Heaters, Machinery, Tools, Rubber Stock, etc., on a large beautiful farm at L. I. R. R. depot near New York City, with houses and store all free and clear. I am old and need a party who can spend time and little cash and go on with the business. Fine chance. Did $250,000 business one year. Address, U. S. & I. Rubber Works, care of F. Smith, 769 Greenwich St., New York City. (March)

WANTED.—The following back numbers are wanted to complete a file of THE INDIA RUBBER WORLD. If you have any or all of these numbers please send particulars to this journal.

1890, June and August.
1891, October and November.
1892, all twelve numbers.
1893, February and April.
1894, February and May.

The Missouri Coffee and Rubber Co., **IMPORTERS EXPORTERS.**

210 LACLEDE BLDG., - - ST. LOUIS, MO.,

Announce that a few more shares of their capital stock is for sale.

Owners of Plantation LOLITA.

WRITE FOR ILLUSTRATED PAMPHLET

Mention The India Rubber World when you write. **containing full particulars.**

1, 1900.

(March)

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(March)

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(March)

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